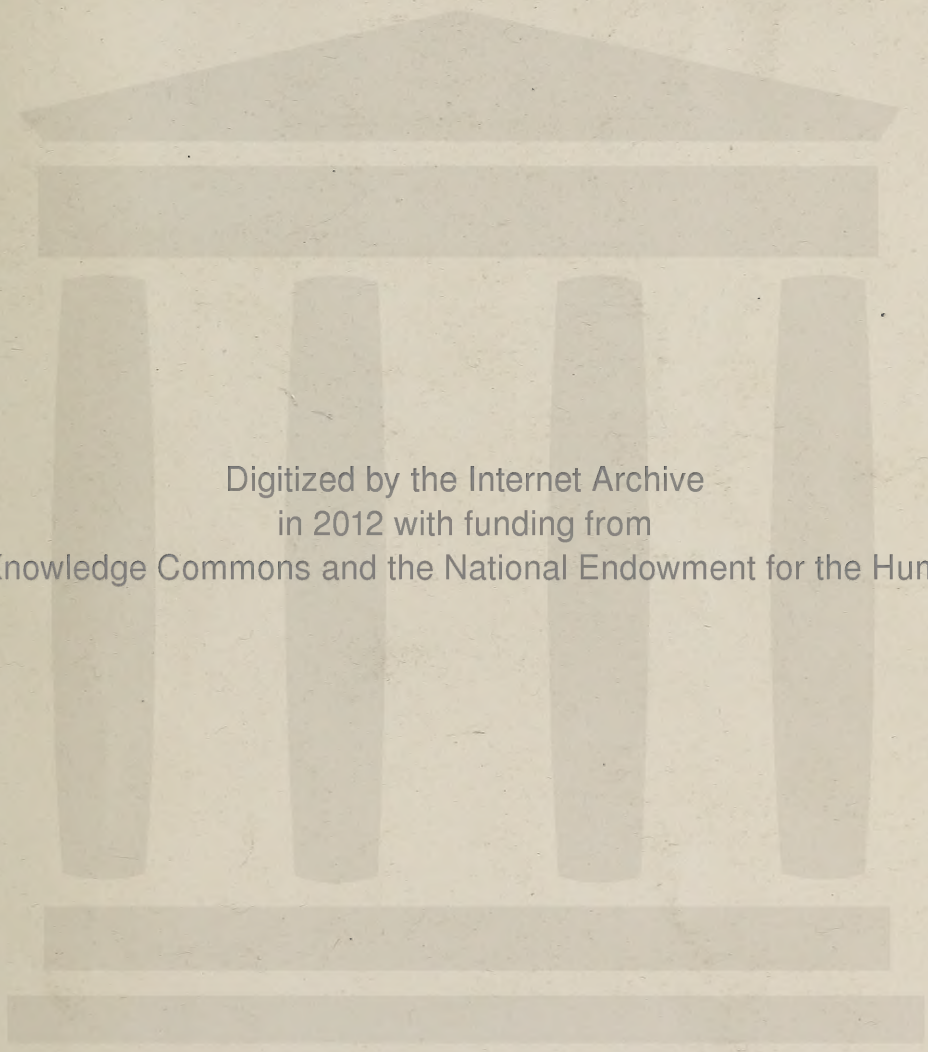

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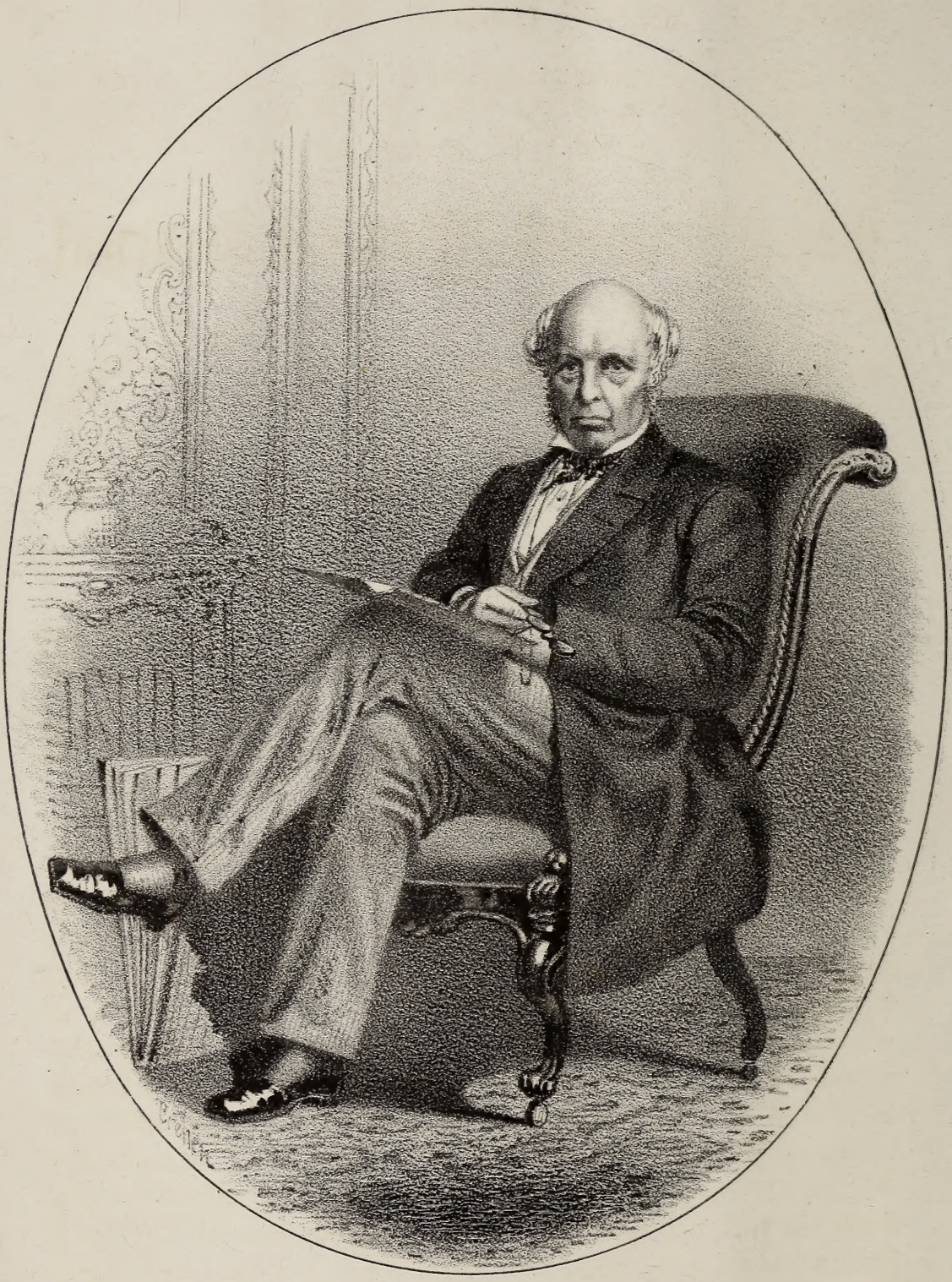

SIR THOMAS WATSON, M.D. D.C.L. F.R.S.
President of the Royal College
of Physicians
and
One of her Majesty's Physicians Extraordinary etc.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

Art. I.—On the Causation of Diseases. By Samuel Henry Dickson, M. D., LL. D., Professor of the Theory and Practice of Medicine, in the Jefferson Medical College, Philadelphia, Pa.

Diseases are effects of agents, which have impressed the system inharmoniously, and therefore morbidly. The result sometimes depends on mere excess; sometimes on abruptness of transition; sometimes on conditions of transient or permanent unadaptedness. Thus, there is but a certain quantity of gastric juice secreted; the stomach can endure only a certain degree of repletion or mechanical distension; therefore, if filled too full, or loaded with too much of the best food, it must suffer. So, also, abrupt changes of temperature, or of habits, or of diet, will do injury. We are apt to lose sight of the fact, that the functions must be in accord with the situation—the surroundings; we cannot respire comfortably on a high mountain—we cough, pant, spit blood; sudden heat distends the vessels dangerously, insolation follows, and apoplexy; the fluids secreted in the stomach of an Esquimaux, for the solution of his accustomed seal's flesh and blubber, will act imperfectly upon the rice of the Hindoo, or the dates and gum of the Arab. When fatigued, we must rest before our appetite or assimilative powers are fitted for indulgence in a full meal, and no one unaccustomed to sup late at night, can safely eat largely just before going to bed.

I do not propose to enter here, into the discussion of these incidental causes of disease. We shall find in specific causes—poisons—a most interesting and fruitful topic; and I shall treat, at present, of those which are known to affect numbers at once, rather than confine myself within the limits of toxicology proper. History abounds with records of ghastly and wide-wasting epidemics. In all ages, men have been found liable to loathsome forms of death, carrying off promptly, whole armies, and depopulating fair and flourishing Cities. The wrath of Apollo decimated the ranks of the Greeks, in the war of Troy, and the story of the pestilence, which scourged Athens, is familiar to every school-boy. The "Black Death" the "Sweating Sickness," and the great plagues of Florence and London, need only be alluded to. These maladies are known in Europe no more, and have never reached America. They are assumed, in a general way, to have arisen from the defects of Hygiene of that time, aided by the presence of some infectious or contagious pollution. Such, at least, is the almost universal belief. When we know, with precision, how such terrible disorders are generated, we shall learn why they have died out or disappeared. There are, in London, and all other large Towns, at this day, purlieus as vile and filthy as the worst dens of pauperism in the middle ages; and, happy as we are, that we have not these products of pollution to contend with to-day, we have in their stead, others little less to be dreaded; Typhic fevers, spotted and putrid, Small-pox and Scarlatina, Diphtheria, Yellow-fever and Cholera. Progressive civilization has had, doubtless, a strong influence both on the production and extinction of diseases; but it contains so many elements, that it is difficult or impossible, to point out which of them is to be considered the efficient excitor—the causa causans—in any given instance, or the beneficent exterminator in any other. Leprosy, still permanent in the unchanging life of the Easterns, once within the historical period, pervaded all Europe, to an extent that seems to have been overlooked by modern medical writers. It was, and is still, an incurable malady; it was universally regarded as contagious; it was believed to be hereditary. Yet it has gradually diminished and died out so completely, that it is now scarcely ever seen in private practice, or in any of our hospi-

tals. It is hardly credible, that in the fourteenth century, there were about twenty thousand Leproseries in Europe—more than two thousand in France alone—asylums for the wretched lepers; one for the noblesse in Dauphiny, and one in the environs of Paris, exclusively for females of royal houses, "pour les femmes des maisons royales," the exact phrase of Monteil, in his "histoire des Français des Divers Etats." And one of the large old churches in London, was built by the Queen of Henry II., as an "asylum for lepers." But there are now, neither patients, thank Heaven, nor hospitals of this kind.

The occupations of civilized life, afford us examples on the other hand, of the creation or origination of diseases, as well as of their abolition. The one often follows the other, with gratifying readiness, but not always. Lead, as used in the arts, gives rise to severe, and sometimes fatal ailments; but we have learned to evade these by tinning our pipes, and in manufactories, by the employment of sulphuric acid. Phosphorus matches, the invention which, more than any other, separates and distinguishes the cultivated from the savage man, which realizes the old legend of Prometheus, and endows us with control over the most beautiful, useful and necessary existences in the creation, Light and Heat, brought on in their preparation a frightful caries of the mouth and face, now almost unknown; the injurious influence becoming obvious in its nature, was scientifically and thoroughly corrected after a brief course. Mining, whether for coal or ore, does not exhibit in our new Country, and in the conditions of progress active here, the deleterious effects upon health and longevity connected with it every where in Europe. The wet and dry grinder in England, have long been doomed to premature old age and early death. "A grinder," says Chambers, "sits on a block of wood, which he calls his 'grinding horse,' and his grindstone is before him, turned on an axle by steam or water. To this, he applies the article to be ground, and a spray of fire arises at every touch. But the fire is not the worst. The stone itself, wears away in foam-like surges, that fill the lungs, and in a certain number of years, calculated by statistics to a nicety, kill the principle of life. A dry-grinder does not reach thirty-five, a wet-grinder may defy death for nearly ten years more.

The men themselves, and they number between 2000 and 3000 in Sheffield alone, like their fate rather than otherwise, insist on their trade retaining its fatal noxiousness—because, if this were removed, there would be a greater competition of hands, their high wages would come down, and their deep drinking be cut short." As Elliott has it, in his "corn-law rhymes"—

> "There draws the grinder, his laborious breath,
> There, coughing, at his deadly trade he bends;
> Born to die young, he fears nor man nor death;
> Despair and riot are his bosom friends.
> Bid science on his cheek prolong the bloom!
> *He will* not live—He seems in haste to gain
> The undisturbed asylum of the tomb;
> And, old at two-and-thirty, meets his doom."

But, in spite of his insane resistance to corrective measures, science has reduced, very greatly, his peculiar risks and liabilities, and indeed, among us, may be said to have obliterated them, by improved mechanical processes.

Scurvy, once a generally prevailing condition in all dense populations, has been almost done away with, by the varied diet of vegetable and fresher animal food, attainable under our better husbandry, and is now seldom seen, except on board ship in long voyages, in ill-supplied armies, and ill-managed prisons and poor houses.

A constantly increasing attention to cleanliness and proper clothing, in addition to the better food, just spoken of, have done much to mitigate the prevalence of scrofulous and cutaneous affections. I wish I could say the same of many connate maladies, depending on the nearly universal neglect of ventilation in our domestic architecture. Not to speak of the hovels of the old world peasantry, or the crowded dens in Cities, take from the Atlantic Monthly, for July, 1866, the following recent description of the "Homes of New England:" "In the Winter, the windows are caulked up and listed, the throat of the chimney is built up with a tight brick wall, and a close stove is introduced to help burn out the vitality of the air. In a sitting-room like this, from five to ten persons will spend about eight months of every year, with no other ventilation

than that gained by opening casually and shutting doors. A late writer raises the question, whether the community would not gain in health by the demolition of all dwelling houses. Through the valley of the Connecticut, the bed-chamber will be the concentration of all forms of bad air. The house is redolent of the vegetables in the cellar, and this fragrance is confined and retained by the custom of closing the window-blinds, and dropping the inside curtains, so that neither air nor sunshine enters in to purify. Thrifty country housekeepers, often adopt the habit of making their beds on the instant after they are left, without airing the sheets and mattresses; and a bed so made, gradually becomes permeated with the emanations of the human body, so as to be a steady corrupter of the atmosphere."

Collate the above with what is said by Bartlett, when discussing the continued fevers of our Country, contrasting Typhoid with true Typhus, and insisting strongly upon the error of ascribing the two to similar modes of causation, and on the inefficacy of hygienic measures, to prevent the former: "Do my friends believe that any cleanliness, any ventilation will avail here? Let them try it when Typhoid fever prevails, as it so often does, and so extensively, during the beautiful and breezy Indian Summer, amongst the most cleanly, the most temperate, the best clad, the best fed and the best sheltered people, that this world has ever seen—the rural population of the Eastern States." (P. 214. Note.)

It is certain, that mere domestication, a word which implies warmth and shelter, as well as the confinement within warm and sheltering buildings, is unfriendly to all wild animals. The caged lion, tiger and monkey, are miserable, scrofulous or tubercular, and short-lived; the horse and the cow, and even the sheep, have become delicate and sickly, and liable to destructive epizoötics, the Murrain, Rinderpest, Pneumonia, Malignant Pustule and Glanders. Even the hardy wild boar, is so deteriorated in constitution, by the artificial modes of living, and breeding and feeding, that his descendant races are now very widely regarded with distrust and suspicion, as proverbially strumous, and of late, still more emphatically as the chief focus of parasitic intrusion, as in Trichiniasis.

Tuberculosis is unquestionably spreading its gloomy sway over the highest types and conditions of our modern civilization; the

ravages of Phthisis are annually extending more and more widely, and occupying always, and every where, the highest place in our bills of mortality.

When we take up the study of endemics or local diseases, we shall also find it difficult to ascribe the proper share in their production to the several elements present and influential; the social state already treated of, with all its involved modes of agency; the peculiarities of tribe or race, and the topographic or climatic circumstances. Why should the Pole, alone, be subjected to Plica? There is no observable peculiarity in his scalp or its hairy covering. If he is filthy in his habits, so are the poorer classes of many tribes and nations, savage and cultivated. Why should the Lombard suffer exclusively from Pellagra? Maize, used for food by the people, has been suggested as the source of that terrible disease—which if not exclusively confined to Northern Italy, is scarcely known elsewhere. Maize is eaten as abundantly by many other populations—in all its varied qualities has certainly long formed as large a proportion of the diet of our Indians, and of the white men who have taken their places on the earth's surface. Hameau suggests that we get it somehow, from sheep; but sheep exist every where.

Why is Yellow-fever the constant resident of certain situations, and why, under contingencies, apparently similar, is it in certain other places altogether unknown? In the Gulf of Mexico, and the islands of the Caribbean sea, it does not fail to show itself during the hot season; on some portions of the African shores, while the natives seem exempt, it is always ready to assail an exposed visitor. It has never been met with in Asia, and rarely visits Europe. Familiar on our Atlantic coast, the Cities of the Pacific seem almost free from it.

It is easy to mention numerous instances of still more remarkable narrowness of domain, occupied by particular maladies. The "Aleppo Evil"—"Aleppo boil"—"Bouton d'Alep," is one of these. Unheard of, except in that immediate region, on the banks of the Coik, the Tigris, the Euphrates, at Moussoul, Diarbekr, Bagdad, its centre is the City whence it derives its name. "The natives of Aleppo," says Willemin, "are universally subject to it. It develops itself in early life, generally during the three first years.

Strangers sometimes escape it, even after long residence, but some are attacked after a very short stay." Such was the fact with the celebrated female traveller, Madam Pfeiffer. It may show itself in one month, or not until some years—even after removing from the dangerous region. It mostly attacks the face; there may be but one button or tubercle, or many; it often lasts a year.

Equally obscure and undetected, are the local causes which produce the gangrene of the rectum, in Brazil—the Barbadoes Leg and the Radesyge of Norway. Boudin furnishes us, in his valuable work on Medical Geography and Statistics, with many other similar instances, in which some local peculiarity, whether of air, water or diet, hitherto undetected, inflicts its evil impression—more on the indigenous population, yet not altogether sparing the occasional visitor or temporary resident.

Of still more general interest, are those maladies, which, while specially prevalent in one region, are traceable in other localities, presenting similar topographical contingencies. Of this sort, we may mention Goitre—Bronchocele, with its attendant Cretinism. Terribly frequent in the Alpine Valleys, it is also familiar among the Pyrennean Cagots, and may be met occasionally in all parts of the world—even where it would be difficult to detect any of the circumstances, to which it is ascribed as an endemic. McGowan, in a paper, read not long since to the American Ethnological Society, says that he finds it prevalent on the Juniata, and in the lateral valleys of the Susquehanna, and on the acclivities of the Blue Ridge, in Virginia—mostly restricted there to negroes and mulattoes. Dr. Merrick spoke of its prevalence in Panama. M. Squier had observed it in Peru and Nicaragua. S. Navarro, Mexican Consul-General, stated that, in certain portions of Mexico, Goitre and Cretinism prevailed, both among Indians and Spaniards. Our own Indians are exempt from it—McGowan thinks from their migratory habits. Sporadic cases are met with everywhere, however, as if spontaneous and from unknown causes. Snow-water, lime-water, want of ventilation, as in pent-up valleys, monotony of diet—all these are assigned as producing it.

Is the question absolutely settled yet, when and where began the scourge of the venereal pollution? Was it American in origin,

and unknown in Europe until after the voyage of Columbus, or a new development in Europe, at about that time, or an old European disease, suddenly aggravated into a wide explosion—or, as some have ingeniously suggested, the result of promiscuous indulgence of two races, uncongenial in constitution and habits! I will not pronounce here, any dogmatical decision; nay, I do not hesitate to say, that a ready debater might accept and maintain either of these views, with very plausible tenacity.

When, and where too, did Small-pox first show itself, or Scarlatina, or Measles, or Whooping-cough? If any of these seem to originate now, without obvious source, the fact is looked upon as curious and unintelligible; nay, we would be as likely to expect the advent of a new animal, as either of them, notwithstanding the speculations so often indulged in, which we shall hereafter take into consideration.

Some diseases remain tenaciously fixed, as we have seen in certain localities, while others disappear with the progress of time, and the changes of condition and circumstance. Instances are numerous of both kinds. Fevers and intestinal diseases are as rife as ever in the Roman Campagna, and many parts of Asia and Africa. Cutaneous affections, as old as the races, continue to haunt the poor of Syria and Persia; and in the same regions, Lepra still exists, and the Plague. But the Plague no longer assails any portion of Europe, out of Turkey; and Leprosy, once common, is so rare, that we may consider it virtually extinct. Here and there, too, in Europe and America, we can point out particular spots, whence the ancient fevers have been driven, or have disappeared, and new ones have taken their places. We learn, that even in Africa, and in the hot climate of Algiers, a thriving City of colonists has been planted in one of the most fatal districts, occupied by the French, and Bou-Farik flourishes in comparative salubrity. It is not uncommon, to notice such a change in our own Country; Towns grow up in low places, at the cost of a sad proportion of lives. Bou-Farik presented a bill of mortality, for some time, of 70 per cent. during its struggle for existence; and New Orleans was, for a long while, a most insecure residence, while going through the series of changes, which, as Harris tells us, have resulted in its becoming as healthy a place

as New York. We learn thus, to make distinctions among endemics or local diseases, and to ascribe some of them to causes that may be controlled, and others to unchangeable and permanent conditions. Some of these, we think we know, and discerning, feel ourselves able to contend with them at advantage.

The most familiar and widely-spread of all endemics, is periodical fever—Fever and Ague. Our Profession, generally, has agreed to ascribe it to a special cause, which Headland calls the "ague poison," and which we conventionally designate as Malaria—a word insignificant in itself. There are a few dissidents—some maintaining that there is no proof of the existence of any specific poison, others going farther, and contending for the sufficiency of incidental, or patent and obvious causes, heat, cold moisture and their alternations. I consider the point to be as well settled as any other in pathology. Intermittent fever, is confined within known limits, uniform in its features, characteristic in its history, amenable to a specific remedy; in all these circumstances differing from all incidental maladies.

When we set ourselves, however, to investigate the nature and source of this ague poison, we are met by almost insurmountable obstacles. Exceptions to all apparent rules, beset us on every side. We find these fevers most certain and most rife, where heat moisture and vegetable life are prominent, in degree and amount; yet, we also find them where each of these elements is wanting, and fail to find them occasionally, in places where they are all combined. Heat alone, is present in Malta and certain other rocky islands in the Mediterranean, notoriously subject to periodical malarial fevers. These are among the most arid spots on the globe—no vegetable growth existing there. The same fevers are found in the cold climates of England, Holland and North America, but are unknown in Australia, where intense heats prevail. Moisture abounds in some of the above mentioned places; but moisture alone, or even with heat, does not always suffice. These fevers are unknown in mid-ocean, under the line. Moelmyn, in Hindostan, Point de Galle, in Ceylon, and the bayous of Louisiana, and the Dismal Swamp, are exempt. Vegetable matter, so generally present where the fevers abound, may be dispensed with, as on the sandy plains of

Spain and Portugal enumerated by Fergusson, and numerous localities specified by Davy.

Certain points in the history of this poison, assuming its existtence, seem to be established; it has weight; low places and ground floors are most subject to its influence; obstacles, walls, hedges, &c., arrest it; it has not self-repulsion, or diffusive quality; as is proved by the singular limitation of its agency recorded by the best authorities—one side of a road, a river, or even of a house, being affected; it is moveable by winds, however, over distances variously stated—by Lind, at a cable's length from the productive shore, ships were safe; by Allan and Davy, the perfect security of vessels moored, even within the reefs. Exceptions here occur; it has been blown a mile or two off shore; up the side of a mountain. Scherzer tells us of some persons taken ill on board the ship, while others of a shore party escaped.

The failure of all chemical analyses, and all eudiometric tests, seems to prove that it is not a gas. Until very recently, no one has announced, with any confidence, its detection in any palpable shape. Boussingault and Hume, it is true, found some dark carbonaceous matter left after evaporation of dews from foul places; but the experiment has been frequently repeated by Drake and others, with no similar result.

My distinguished predecessor, Prof. J. K. Mitchell was led, by reflection on the symptoms and history of intermittent fevers, to the opinion, that their cause must be a living organized agent—ultra microscopic, as not having been detected—vegetable from its connections and from the fact that animalculæ, are rarely poisonous—a fungus because fungi are thus deleterious very generally, and fungi usually abound in fever spots. This hypothesis he has most ably argued in a little work, containing the substance of his opinions on the subject.

Prof. Salisbury, of Cleveland, Ohio, impressed with the same views, pursued a similar series of researches, employing more hopefully, and with intense zeal and perseverance, the improved means of physical exploration. He announces to us, the success of his inquiries, in the discovery of the ague poison, which he finds to be an Alga of the species Palmella, a minute, but visible sporule. He

examined, patiently and assiduously, the excretions of the sick and the surface of the soil where they were attacked. Amongst great varieties of algoid and fungoid cells, he found this only to be uniformly present. Covering the soil, or destroying its surface with lime, he remarked that the fevers ceased to occur; removing a portion of the soil with this algoid growth upon it, to healthy spots, in three or four instances he found that fever attacked those who were in close propinquity to it.

In all malarious places that he examined, the ague-palmellæ were found growing in profusion. If his statements are confirmed, by farther repetition, and in the hands of additional observers, we shall admit, without hesitation, that one source of periodical fever has been fairly detected. But we must not generalize too hastily. Even after the relation between the poisonous palmellæ, and the febrile attacks shall have been established to be causative, and not merely coincidental, we shall by no means regard it as proved, that these algoid spores constitute *malaria*, or are to be considered as the exclusive producers of periodical fevers. These maladies occur, as Davy has shown, in great numbers, in every form and every degree of intensity, on some of the most arid spots on the surface of the earth. We have already mentioned Malta, as notorious for its fevers of this type, and Via and several other rocky islands of the Mediterranean, where the tables kept by the British Army Surgeons are full of mortality from, and their hospitals crowded by every variety of intermittents and remittents. The seeming contrasts and caprices too, which present themselves, must be fully weighed as objections to this assumption. Low, moist places in Ceylon, likely to abound in algæ and fungi, are habitually healthy; others similar, are healthy at one time, and then unhealthy. Livingston tells us, in his Travels, that on the Ue, where every thing was wet and sloppy, and covered with fungi, there was no fever. And when we reflect on the tenacity of these fevers, the obstinacy with which they recur, even when patients have been long removed from the point of first attack, we find still greater difficulty. Dr. S. tells us that the palmellar spores may be evolved in the body, and that they are eliminated from it, for he finds them in the expectoration and urine of patients. But how long will they continue

to find a nidus for the development of successive germs in cases of intermittents, which we know may endure for months, and even years? And again, as to the interval, Dr. Mitchell ingeniously suggests the death of one generation of fungus sporules, and the development to maturity of the next, thus constituting periods. But when these periods change, and a quotidian becomes a tertian, and a tertian a quartan, is it possible that the periods of development and growth of the germs can thus vary?

After the interval of a Winter, intermittents often return upon a patient, even after he has removed far from their source. Have the palmellæ spores remained dormant in the system thus long? I know that none of these unanswered questions, involves an unanswerable objection. I admit that our ignorance on these obscure points in pathology, must not stand in the way of any truth, when it is proved to be the truth—established; but meanwhile we require their due and impartial consideration.*

Can there be any connection between the bodies found in the blood, in Marsh Fever, by Frericks, and described as pigment granules, and these fungi of Salisbury? Dr. Meigs, of this City, has also observed them. On pricking the finger, and placing a drop of blood under a quarter-inch lens, it was seen that the red corpuscles were not more than one-quarter as numerous as in health, the white corpuscles normal—while in the field there were numerous minute particles of irregular shape, with angular edges of blackish colour, and entirely opaque. It is supposed that the red globules are destroyed, and their red matter converted into black pigment, which is carried into the vascular apparatus of the body. But—conjecture for conjecture—if there be fungus sporules (palmellæ, &c.,) diffused through the blood, they must die and change to carbon, assuming a dark colour, and presenting the appearance above described.

The universal family of man seems to be subject to the evil influence of the agents which cause malarial fevers. But there is much difference in the degree of liability. The white races are

* Since the publication of Prof. Salisbury's interesting paper, several claimants have presented themselves in Euoope, who urge the right of prior discovery. Among them, are Lemaire, of Paris, Vin den Curpet, of Brussels, and Dr. Hannon, for Prof. Morren, of Liege. None of them, however, has, like him, stated his views clearly and definitely. He is the true discoverer, if the discovery be established and confirmed by future experiment.

specially prone to suffer. Boudin and Brace, tell us that the Hebrew tribes are obviously, less so than all the other white peoples. They alone, increase in population in Algeria; they alone "keep up their number" on the Red Sea. The black races enjoy great comparative immunity; the Kroomen of the African Coast, and the inhabitants of Fernando Po, most strikingly. Yet Livingston had many cases of fever among his native attendants. In our own Country, the black escapes best the more intense malaria of the low swampy rice fields. In the less fatal uplands, where the white man may live, doubtfully, and cultivate cotton, they are more liable to fevers than below. Paradoxical as this may seem, it is established upon the best authority—especially in Georgia and Alabama.

Even in the birthplace of the Red Man, as Gibbon and Herndon assert, the negro is safer than the Autockthon—the Indian, who ascribes to the presence of the white intruder and his plough, the destructive fevers, unknown to his savage ancestors. The tawny tribes are not universally exempt. In Hyderabad, Napier tells us, they suffered equally with their white invaders, and Colonel Shakspeare, in announcing the value his Hindoo mountaineers set on tobacco as a febrifuge, incidentally informs us of their susceptibility to Fevers. So the Chinese suffer in Panama; yet there must be a great difference between them and the Whites. Martin affirms that the Whites cannot become acclimated in Hindostan; nay their progeny has never, in any instance, arrived at the third generation.

It is among these tawny nations, however, that we find examples of the most complete immunity from malarious fevers. The Tamul tribes generally, are affirmed by both Brace and Hodgson, to enjoy this great privilege; the Bhotiga, the Mishnies, some of them living on the declivities of the Himalaya Mountains, others in the lowest region at their feet, the basins of the Tista, Glandake and Burrampootra. "They are generally fine, healthy races of men," says Brace, "though dwelling where no other human beings can exist,

I have already mentioned the capricious appearance and non-appearance of the Periodical Fevers, which show the presence of malaria in certain places. Attempts have been made in various

localities, to calculate the frequency and rate of these occurrences, and to reduce them under some rules of periodicity in these respects. What we know of the matter, clearly, is this; that where these Fevers exist permanently, where their cause is annually reproduced or perenially present, as proved by the sporadic occurrence of cases in every hot season, there happen, from time to time, regularly, or irregularly, occasions of Epidemic spread of the Endemic calamity. It will require a long protracted series of careful observations to determine why it is so; whether because circumstances have favoured the development of the material cause in greater quantity, on a wider scale, or in enhanced intensity, or have acted upon the exposed bodies, so as to produce a greater susceptibility to its impression, or whether there is a recurring cycle of activities of any special nature, obvious or undetected, which we may refer to.

But I must pretermit for the present, any farther discussion of a topic fruitful of interest in itself—full of obscurity and difficulty, and, as yet, admitting rationally of much scepticism and difference of opinion.

Not less important among the causes of Diseases, is Contagion, the subject upon which I shall next direct your attention. It is among the most lamentably familiar facts, which are universally known, and have been observed from the earliest times that certain maladies spread themselves, as from centres, extending in various directions, independently or indifferently as to the topographical conditions, which limit the prevalence of the Epidemics, of which I have been speaking. Known under the heads of General Epidemics and Pestilential Maladies, they obviously divide themselves into two classes, recognized by general or universal consent in certain strongly marked instances—the one as coming from undefined unrecognized contingencies, diffused widely over earth and sea, as Influenza; and the other class as clearly depending upon a palpable connection, or inter-dependency among themselves; these latter we call Contagious affections. They are numerous and varied, and are found among all the classes and orders of Nosologists. The modes of their connection, or mutual relation vary; no two, indeed, being precisely similar in this regard. There are few points

in pathology, upon which the Profession is so much at dispute as these. An intense unwillingness to accept the allegation of a contagious character, as belonging to any Epidemic, exists in the minds of a large school of Physicians, who demand what the Irish orator calls "an Ossa upon a Pelion of evidence," before they yield their incredulity. For my own part, I will avow at once, and freely, that in the Natural History of Diseases, the more I have studied them the more reason I have found for laying down the general rule, that "like has a tendency to produce like," and that the exceptions among specific diseases, are comparatively few. The *causa causans* of any malady, whatever it may be—a pestiferous exhalation; an altered secretion; a new deposition; a cell formation, of peculiar character; a morbid excretion; a parasitic production, animalcular, fungoid or algoid, vitalized or semi-vitalized, individual or in Vogel's phrase, endowed with semi-individuality—if generated within a diseased human body, or any part of such a body, and capable, if brought in any manner to act upon a healthy human body, or any part of such a body, of afflicting it with the same diseased condition, in which it took its rise, is a Contagion. Any disease so conveyed or communicated, is a contagious disease. The matter of contagion—the substance possessed of this subtle property of self-production or generation, has never yet been clearly detected or set apart from its surroundings. Even in the parasitic maladies, it is doubtful what share the parasite has in the actual causation. Sir H. Cooper affirms, that the Acarus Psoræ, gives rise to various, not one, exclusive cutaneous disease. "There appears no one specific eruption, which indicates the presence of the Acarus Scabici. The nature of this is determined by the temperament or predisposition of the patient. In one case vesicles, in another papular, in a third pustules are the result," and indeed, if the creature himself be the exclusive source of irritation, the Itch is no more a contagious disease than the Morbus Pediculosus, or Trichiniasis or Tenia. Its reception into this class of maladies, properly depends upon the answer to a question, never yet raised, so far as I know. The propagation of itch, may be ascribed to one of these sources; the animal himself to be transferred, or the ova within or without the insect, or the fluid of the vesicle in which he lives.

The latter may be capable of reproducing the disease, of which the animalcular is an appendage. So it may be inquired of Mentagra, Favus and other maladies of fungous character. Are the vegetable growths the cause or effect of diseased action or condition? The crusts being transplanted, the disease, doubtless, is extended—but is it not by the animal portion of the crust? If it be the fungus, which constitutes the disease, must we not pronounce upon Prof. Salisbury's views, that malarial fevers are contagious? The Palmellæ are as transportable as Psora or Muguet. Indeed, Londe maintains, in an essay, read before the French Academy of Medicine, that every Contagious Virus, must necessarily act as a living being—it must possess vital properties. Mere poisons, he argues, of whatever nature, affect the body mechanically or chemically, overpowering the vital forces, and being destroyed by their own action upon the tissues and fluids; this decomposition being a law of chemical affinity. "Any heterogeneous substance, which when introduced into a living body, shall remain inactive in it, for a certain length of time, then become active and multiply in it, and then leave it to act upon another body in the same manner, must possess a living principle." In a paper, read before the Epidemiological Society of London, 1851, by Mr. Grove, the philosophical author of the received theory of the "Correlation of Forces," these views are most ably wrought out. His object, he avows, is to show that the poisons inducing Epidemic, Endemic and infectious diseases, must be ranked among the things endowed with life. "He argued, that the faculty of reproduction, was a distinctive mark between animation and mechanism, or between living and inanimate matter; that it was during the reproductive period of existence, that the most energetic operations of the vital force were manifested, and that it was during the reproduction of the poison-germs, within the body, that the force of diseased action called for our special notice. He directed our attention to the fact, that whether we examine an epidemic or infectious disease of plants, or of animals, or of man, we find that the essence of the affection is something which has the power of reproduction.

Taking this power of reproduction as indicative of the existence of a germ, he classes these agents of disease among living things,

and regards reproduction as their primary law. He then goes on to infer, that if this be a correct interpretation of nature, the germs of diseases ought to acknowledge obedience to the same subsidiary laws, which regulate and influence animate existences. He divides those laws into two classes, the first acting upon faculties or properties inherent in the germs; the second governing the action of external agents or influences upon them. The laws, which he designates, ten in number, he tells us are not laid down as absolutely definite expressions of a comprehensive idea, but merely as the readiest approximations—

Objective Laws.	*Subjective Laws.*
1. The diffusion or dispersion of germs.	1. Seasons of Activity.
2. Their Static existence.	2. Climatic influence.
3. Their duration of active existence.	3. Relation to Latitude.
4. Their period of development.	4. Subjection to physical forces.
5. Their intermittent reproduction.	5. Influence of locality.

He went on "to demonstrate the application of these laws to the agents of disease, and their analogies in the vegetable and animal kingdoms—and show the impossibility of accounting for epidemics and infection upon the chemical basis; seeing that in no purely chemical process, was there any multiplication of the agents, and that as far as physical forces are concerned, one always increases at the expense of the other; as heat increases by the chemical change taking place in combustible bodies and their destruction."

The matter of contagion, is the usual generative cause of the contagious disease whence it takes its origin; but can we pronounce it to be the only cause—the exclusive source of such disease? The assumption, I think, would be hasty and untenable, though it has been so generally received and held so strongly, as to have become the foundation of one of the most familiar objections against the alleged contagiousness of any malady, and the argument is often pressed, as if conclusive, that "a disease, having arisen spontaneously, as it were, sporadically or independently of previous cases of the same kind, from whatever contingencies it may be derived, is proved not to be contagious in its character." But let us consider. Every malady must have had a beginning; it must either have been created as a separate entity, which will scarcely, we think, be sug-

gested by any scientific inquirer, or it must have arisen from and under certain contingencies, which developed it, or favoured its development. If the latter be the correct view, it is unsafe to affirm, that the same contingencies can never again occur. Take the case of Small-pox. No one expects or fears to meet with a sporadic or spontaneous case of Small-pox. It would be entirely out of the course of our ordinary experience. But observation and experiment have proved, that if such a case should present itself, there would be no necessity for recurring to miracle, or even special Providence, for an explanation. Many erudite Physicians admit the identity of Vaccine and Variola. Bouley and Dupaul maintain, that they both find a common origin in Apthous Stomatitis of the Horse, from the grease on the heels of which animal, Jenner, himself, thought Vaccine, at least, was derived. But nobody doubts the frequent spontaneous occurrence of Vaccine in the cow, or of grease or stomatitis in the horse; animals with which our human race is so frequently in close contact, that we may readily derive from them the germ of Small-pox, which shall only require certain fostering conditions for its modified development into Variola. Again, Thompson, Cross, Hennen and many others, are satisfied of the close affinity in nature, if not the absolute identity, of Varicella (Chicken-pox) with Variola (Small-pox.) I confess, I have very little doubt of their intimate connection. The authorities above mentioned, recite numerous instances, in which Chicken-pox, which we often meet with sporadically, has produced Small-pox. Davy speaks of their closely intermingling, in Malta, under his careful observation, and confesses that he regards the diagnosis as doubtful.

Scarlatina was once observed by Gregory himself, as he supposes, to have occurred sporadically from exposure. Measles, or a cutaneous exanthem, very like it, has been excited by the fungus emanations from mouldy straw, as Salisbury contends—and so of many others. The Typhic group of fevers, true Typhus, Typhoid, Relapsing fever, may all happen as the result of conditions, that newly affect individuals or masses of men; may be generated in a close ill-ventilated dwelling; an ill-ordered prison; a crowded emigrant ship; a foul alley. I know that Watson, and others, still

affirm, that these continued fevers arise from contagion exclusively, but this is a narrow view of the matter. On the other hand, Bartlett and the majority of our American brethren, show a reluctance to point out the cause of our familiar Typhoid, or to ascribe it to its true source in human exhalations, neglected and festering, and many absolutely deny that it ever arises from contagion. That all these fevers are capable of springing into existence, under the circumstances indicated, seems to me as clearly proved, as that they become contagious as soon as they are developed. Contagious diseases, then, may have more than one source. Contagion has but one, that is in the specific actions of the malady, from and during which it arises and is generated. Its nature consists in its power to reproduce that malady. Each variety of contagious matter has its special elective affinity, as well as its special potentiality. One acts on the skin; another on the digestive organs; one on the mucous surfaces; another pollutes the blood. Some are volatile and diffuse themselves in the air; some are fixed, but obey the universal law, corpora non agunt nisi soluta. We may keep small-pox and vaccine matter in the dry state, but they must be dissolved before they will act. The cholera poison is plausibly supposed to be mingled with the dust of the soil, where a regiment or caravan have suffered the disease, and thus raised by the winds, to be driven against and inhaled by unfortunate passengers, acting when moistened by the sweat or the mucus of the mouth and nostrils. Some, and among them, happily for us, the most deadly, the hydrophobic virus, require to be intruded beneath the protecting integument, and will not affect us but through a wound or abrasion. I have said that it has never been secerned—that we do not know the appearance of any form of contagion. It is connected with the cell, as in Small-pox, Syphilis and Cancer; with the amorphous stroma or deposit, as in Tubercle; with the blood, as in Scrofula and Scarlatina. But neither by the microscope nor by the minutest chemical analysis, can we distinguish the pus globule of Small-pox or Syphilis from the most laudable pus of the Surgeon, nor detect any peculiar substance in the blood of the most pestilential malady, nor in the saliva of the rabid animal. Nor does the chemist detect in the atmosphere, the cause of those contagious diseases which spread only through the atmos-

phere, or chiefly in this way. We are aided by the sense of smell, very usefully, however, and ought to be warned by our instincts, that offensive air is apt to be injurious. It is unquestionable too, that many diseases give out peculiar odours. Scarlatina is in this way remarkable, and measles, and I think Puerperal, and some other Fevers. But there is nothing of the sort observable, so far as I am aware, or ever heard alleged, in Pertussis or Mumps, both of which diffuse themselves atmospherically.

The epidemic spread of all the febrile contagions, and of some not usually ranked as febrile, is a very striking and obscure phenomenon. In all civilized, and many savage populations, Variola is a constant denizen. Our bills of mortality, in large Cities, never fail to enumerate a death or two weekly or monthly, many, more or less, annually, of it, as well as of Scarlet fever, Measles, Typhic fevers, of every diversity, Diphtheria, &c. But, as you are aware, every now and then we are annoyed and panic struck by the large and unaccountable increase of the deaths ascribed to one or another of these diseases—which we then denominate epidemic. The suddenness of their explosion is, at times, appalling.

We have a minute and interesting history of the outbreak of Scarlatina at Eastbourne, a very healthy and popular watering-place on the English coast. An imported case occurred there on the 2nd of September; another was seen on the 4th, then "the virus lay dormant, seemingly, until the 13th, when seventeen cases presented themselves to one Physician, and on the 14th, twenty cases to another; the experience of other Practitioners was similar. There was no indication of the silent danger; no apparent evil to be averted or shunned. The epidemic, too, made its appearance in the highest circles, in the best and largest houses; in no isolated area; in the vicinity of no palpable nuisance, but instantaneously at various points, in fine, new, well-fitted dwellings. Prof. N. S. Davis gives a somewhat similar account of the epidemic spread of Small-pox in Chicago, in 1855: "Previous to the 1st of January, there were so few cases in the City, that the subject had attracted no attention, only one instance having come under his observation. Between the 6th and 10th of that month, it sprung up, as if by magic, in almost every section of the City." Similar is the history

of the outbreak of Cholera in Sunderland, in 1831; similar the record of the visitations of Dengue to Charleston, in 1828 and 1850; similar the sad invasion and spread of Yellow fever, almost always.

"Epidemic Influences" are not seldom spoken of, as something peculiar and apart, as differing in nature from the known causes which produce the ordinary progressive extension of diseases. "It is clearly apparent," says Prof. Davis, in the conclusion of his instructive paper, quoted above, "It is clearly apparent that the City had been visited by a *distinct* variolous *epidemic* influence." He does not suggest in what this distinctness consists. The subject is too obscure almost, for a reasonable conjecture, but as we are in this case of Winter prevalence, and in that of Eastbourne, precluded from any reference to the insalubrity of atmosphere or anti-hygienic conditions, I will venture to propose the hypothesis, that the difference between the instances of slow diffusion, and those of dispersive explosion, rather lies in the character and type of the malady itself. It seems certain, that cases of Small-pox, or any other contagious affection, differ greatly in the degree of germinative power they possess, one will affect many or all within reach—another none, or a small proportion. Nor is it the most violent example in degree, which would be most likely to prove efficient; protraction into maturity and a prolongation of the stage, at which virulent emanations are given off, would be most dangerous. It appears altogether probable too, that the condition of a population may be of importance, regarding them hygienically—that a well-fed, well-clothed, well-sheltered community would be less liable to these all inclusive pestilences, than another not so seasonably cared for. We cannot carry these measures of protection and improvement too far, but we should be prepared to witness their occasional failure. Scarlatina respects them little; indeed, Hirsch thinks that the rich are apt to suffer more from it than the poor, whose condition is less thoroughly hygienic; my own experience agrees with this view; at any rate, I am sure that negroes, poor and slaves, whether from peculiarity of race, I will not say, suffer less than their masters. And the same has been remarked as to Diphtheria, both here and in South America; by Odriozola in Lima, and Arch

Smith in Peru. Verollot affirms, that the Kalmuck, in his vast steppes and open plains, "the type of man in robust health," lost as large a proportion, 51 per cent., as the pent-up inhabitants of crowded Cities from cholera.

Its promptness of action, and the tenacity with which it retains its hold, are qualities of contagion deserving of remark. Bousquet and Itard tried to wash away vaccine just after insertion, but in vain. Bousquet also destroyed the pustule when formed, but the constitutional affection, he says, went on. Renault, of the Alfort Veterinary College, attempted to arrest the poison of Glanders forty-eight, twenty-four, twelve hours after insertion, but failed. Yet, it will be inactive in some cases, as in hydrophobia indefinitely; in all of them for a certain time, not dormant entirely, perhaps, but going through regular and well-defined stages of incubation, varying for each, and subject to a certain extent of modification. This latent period not only varies in different diseases, but may present striking diversities in the same malady. When the contagious matter is introduced by inoculation, we have a well-defined period of development usually calculable, as in Small-pox, Vaccine, Chancre, &c. In Vaccine, however, it may be delayed a few days or a week; a case is on record, in which it lay dormant six months, and then proceeded regularly through its stages.

Of those that are not inoculable, or not usually communicated in that way, we cannot speak with so much precision. It is the general impression, and I think very well founded, that there is a correspondence observable with the septenary periodicity—the latency enduring fourteen or seven, or twenty-one days. Yet, the exceptions noted, are numerous and well-marked. Bigelow recites a case of Scarlatina, in which circumstances seem to prove that the disease either broke out only two days after exposure, or remained latent forty days. Typhus has seemed to sicken its victim at once. I need not remark upon the importance of these matters in reference to Prophylaxis, Quarantines, &c.

Again, the tenacity with which Contagion will adhere to certain substances and remain in certain localities, is astonishing. Mills relates an instance, in which the clothes of an infant, dying of small-pox, washed carefully and put away, communicated the dis-

ease to another child of the same parents, placed in the same cradle, more than a year after. Burridge gives an example of this tenacity: "A noble and magnificent collegiate hall in Taunton, being infested with this contagion of Scarlet fever, for more than three years, in spite of all that skill and science could suggest for its removal," and concludes that there is no known limit to the durability of the Scarlet fever poison. I have known the odious smell of this dreadful pestilence persist in a house for months, in spite of ventilation, scouring, paint, white-wash and all disinfectants.

It is a curious property of some contagions, that they destroy the susceptibility upon which they have acted, and thus protect the system against their own recurrence. This effect would be less strange and more explicable, if it were uniform, but it is not so. Some of them seem devoid of this power, and the others possess it in different degrees. Nay, it would seem, that one at least, Erysipelas in contrast rather increases the tendency of the subject to a second or third attack, and so on indefinitely.

I know not that this quality of self-protection, belongs to any other than contagious affections, and it occurs in so large a proportion of these, that it suggests a fair presumption of the contagiousness of any malady that exhibits it clearly. It is not probably absolute in any. Measles, as far as my observation goes, is most remarkable for it. I have never yet seen a second attack of this very frequent and familiar disease. Next in order, perhaps, stands Small-pox; yet many exceptions are recorded here. Some persons, nay, we are told that some whole families never lose their liability to it, and deaths have been mentioned of second, third, fourth, and one of an eighth attack.

The Typhic fevers present, in this respect, all of them of continued type, an impressive difference from the periodical, malarial, intermittent and remittent fevers; all of which pave the way for their own return. Typhoid fever rarely assails again a subject remaining in the same locality.

It is scarcely worth the time occupied in stating them, to notice the two hypotheses, that have been offered as vaguely explanatory of the observed facts. One is, that all human subjects are born with certain unknown elements—solid or fluid—bound up in the

tissues or component parts, solid or fluid of the body, which have some relevancy to the nature of the diseases alluded to, as furnishing seat, nidus or pabulum to them; and that in performing this office, each according to its elective affinity, they are worn out, consumed, eliminated, or undergo a metamorphic change, which unfits them for a repetition of the same purpose. The analogy suggested is agricultural, as when a certain vegetation uses up all the material in the soil fitted for its growth.

Others, following Daubery's view, that plants, like animals, give out exhalations or exuvial matters, which are not only effete but deleterious, have ventured the strange guess, that these maladies leave something behind them in the system, which prevents their taking root again in it.

Yellow Fever, whose whole history is peculiar, has been somewhat too emphatically spoken of as the *Acclimating* Fever, because a subject born within its habitual domain, or once recovering from it, and not estranging himself by absence, will scarcely ever be attacked by it a second time. Such is, indeed, the very general rule, and happily, we are thus provided with exempts for medical attendance and nursing.

I wish I could speak with the same confidence concerning Cholera. I know not what degree of exemption, if any, conpensates for suffering from it. I have a friend, who has gone through it thrice, in Asia, Europe and America.

This property affords us always the choice of time and circumstance, for passing through dangers almost inevitable; of which, however, little avail is made except in reference to Small-pox. All the world rejoices in the discovery, made so long, and so widely acted on in the East, both in Africa and Asia, that the memory of man runs not beyond it, that inoculated Small-pox, for some mysterious reason, is vastly less severe and dangerous than when taken through the atmosphere. Still further, and if possible, more mysterious is the fact, for which we revere the memory of the illustrious Jenner, who reduced it to practical utility, that a different contagion, or the same, modified to a most harmless mildness, would also exhaust the susceptibility, and protect the system from it.

Whether we can carry this plan of inoculation into the other

contagions, remains to be ascertained. It is asserted by the Physicians of Northern Europe to be applicable in Lues Venerea—the constitutional liability to which, is affirmed to be exhausted by repeated insertions of syphilitic matter. Scarlatina and measles have, it is also affirmed, been conveyed by inoculation with blood and tears, and Schneiderian mucus; but the statements require confirmation and repetition. This we know, however, and I think should unhesitatingly, though prudently, act upon it with proper reserve. As every child seems destined to undergo, at some period, an attack of Scarlet fever, of Measles, of Hooping Cough, and of Mumps, and as these diseases, occurring as local Epidemics, exhibit at different times, marked differences of violence and pestilential malignity, it would surely be a wise and rational course, to submit the child to the chances of contagious impression at some time, and on some occasion when the malady was prevailing in a mild type, and when the constitution of the subject, was in proper condition, or could be properly prepared.

A reasonable anxiety to prevent the influence of Contagion and arrest the progress of contagious diseases, urges us to repeated and varied experiment, in which the most unwearied perseverance is to be encouraged. I need not surely say a word in favour of hygienic measures, as calculated, not only to destroy sources from which such disease may arise, but to lessen unquestionably, if not the liability or predisposition to these maladies, as to all others, at any rate the tendency and proclivity to yield and sink under their violence. I will, however, refer again to efforts directed against the noxious action of the matter of contagion, when subjects have been exposed to it. Poisons inserted in wounds may be rendered innocuous. We cannot, perhaps, wash them out, but Ricord says that venereal inoculation may be rendered inert during three or four days by the use of chemical caustics. Poisoned arrows were formerly used in war, and it was fully believed that suction within a short time after the wound was received, would remove the venom. Barry says that pressure on the part, will also prevent the absorption. I will propose, in all cases of poisoned wounds, the employment, in preference, of the actual cautery, as alone worthy of our confidence. It destroys whatever poison may remain unabsorbed,

and also reduces to an amorphous and inactive mass, the solids in the neighbourhood, changing by chemical annihilation, so to speak, the whole composition of both solids and fluids implicated. It would be well, I think, to extend the same treatment to dissection wounds, received in the examination of diseased bodies.

The celebrated St. Simon, having been bitten by a mad dog, cauterized the wound himself, with a glowing red-hot coal. We read of him, that, for a long while after, he kept a loaded pistol at hand, resolved to commit suicide if ever he became aware of the approach of hydrophobia. I have always burnt with the white iron, subjects so unfortunate as to be wounded by rabid animals, and have not known this method of prevention fail in any case. But I have known the lunar caustic fail, both in this, and in dissection wounds. Youatt trusted to it, and applied it in his own case, having been bitten by a mad cat. It is stated that he died by his own act, leaving no explanation, and I cannot avoid the conjecture, that he carried out the intention of St. Simon, under the fearful expectation of the terrible malady.

Prophylactics are proposed for more than one contagious affection, and they should not be set aside lightly without fair trail. I mention, as worthy of farther experiment, Belladonna, for Scarlatina; Sarracenia purpurea, for Small-pox; for Typhic fevers, as well as for the Malarial, Quinia; for Cholera, Bowerbank recommends the drinking of Sulphuric acid diluted, which is also valued as antidotal to lead-poisoning. The Easterns, from time immemorial, have employed inunction as a general prophylactic; and indeed, as some of the contagions, perhaps most of them, act upon and enter through the skin, this protection, by oil, seems reasonable enough.

Such are the means of individual precaution, but we must not neglect to consider briefly, the important question of prevention in behalf of the masses of communities of Cities and of nations. Is it possible to circumscribe the spread of a contagious epidemic? Can we arrest its progress—assuming the correctness of the common belief that it comes; that it goes? Are the modes of extension, progress, communication or conveyance so definitely understood that we can interfere with them, and oppose a check, or inter-

pose a barrier of any kind? What is the experience of the past upon this subject.

A natural and powerful instinct teaches us to avoid the sick labouring under any known or suspected contagion. The love of life, the fear of death, the dread of suffering all impel us to measures of self-preservation. But our instincts, when inordinately active, when carried into excess, become degrading, vicious, cruel, criminal. Friends stand aloof from friends, the lover deserts his mistress, the husband his wife, brothers and sisters forget the fraternal tie, and even the parent and the child fly from each other under the disgraceful panic. We shudder with horror, and blush for our common humanity, when we read the stories recorded by Thucydides, De Foe, Hodges and Brockden Brown, of such abandonment of the victims of pestilence. While Leprosy prevailed in Europe, the miserable wretch who manifested the early symptoms of this frightful malady, was at once expelled from his home, and driven into exile, and his whole future life burdened by most stringent and odious regulations. The Church, itself, laid its heavy hand upon him, condemning him to a living death, of which Monteil has given us the repulsive details. Led in gloomy procession to the chapel by the clergy of his parish, they chaunted over him the prayers for the dead, with the ordinary aspersions and incense. He was then taken out of the town or village to the hut where he was to reside; there he was again prayed with and exhorted to patient submission under his irreversible doom in this world, and to hopeful faith in another and better, where he would again bloom in health and joy. Clothed in a particular and well known dress, and furnished with a rattle, which he must always use to give notice of his approach, he was enjoined never to leave his abode in any other costume, never to go barefooted, never to pass into a narrow street, never to speak to any one, unless standing to leeward, nor to enter a church, a mill, a fair, a market or any collection of persons whatever, nor to drink or to wash his hands, either in a fountain or any river, to take up any article of merchandise before buying it, to touch children, or to give them anything; finally, earth was thrown over his head, and the poor outcast left by all—alone—not even to be buried when he died, in consecrated ground. "In some provinces," says

Monteil, "they burn the clothing, furniture, and even the house of the leper; every where, his vineyard, his cow, his sheep are safe; no one will touch them; for it seems that he and his land, and all that belongs to him, are struck with the same plague."

Such was then the treatmant of the man, whose condition was believed to endanger the health of his fellows. The system of quarantine, which has long prevailed, and still exists in some parts of Europe and Asia, and especially on the shores of the Mediterranean, is little less inhuman. The real objection to any of these measures of precaution, however, is not their cruelty, but their uncertainty or inefficiency. The sacrifice of individuals, even in large numbers, for the good of the whole, is a familiar idea, and defensible enough, as well in peace as in war, provided the result is certain, and the infliction indispensable. Gamgee, and many other Physicians in England, have urged that every ox seized with the rinderpest, should be killed at once, even if the whole present generation should thus be exterminated. The oïdion of the vine and orange would have been cheaply got rid of on those terms. But we cannot so deal with our fellow-men; we cannot reason thus de vita hominis, nor extinguish human life in cold blood, to arrest a pestilence. Our rights over each other are too limited; and besides this our success is always problematical. And if we cannot sacrifice a life, it becomes a question how far we may rightfully proceed to put it in special peril, and inflict certain and special suffering, by seclusion, by imprisonment, by great and varied privation. To make a quarantine available and efficient, these inflictions are inevitable; it is clear that nothing beyond the inevitable, the indispensable in the interests of humanity, admits of justification or defence.

But greater hardship, more despotic tyranny cannot be imagined than to stop a traveller on his way homeward, or in the pursuit of his lawful business; to confine him closely, nay, to insulate and disconnect him from all that concerns or belongs to him, and this for a length of time, always tedious and often indefinite, and under contingencies that subject him to peculiar risk of disease and death. Before we sanction such measures, let us obtain a distinct view of the good which is to compensate, if any thing can compensate, for so much positive evil.

The absurdity of the Quarantines in operation, in our own enlightened age and Country, cannot be exaggerated. Our great commercial metropolis offers an almost incredible history of error and mismanagement. She kept up a receptacle for all forms of pestilence in the narrowest part of the entrance to her magnificent harbour, in the midst of an increasing population of thronged and busy villages, at an easy distance from her wharves, and still nearer those of another large City, with ready access to both, and to the surrounding country, by boats and steamers and railroads. When the hideous nuisance could no longer be tolerated, and was ended abruptly by fire and force, look for a moment at the arrangements substituted. A vessel or two at anchor—no footing or shore for many months, and through a hot and plague-threatened Summer, with most imperfect shelter for the sick detained—no accommodation prepared for the healthy whom they hold for precaution—no place nor means for separation!

A quarantine on a dairy farm near London, Friern, is described by Dickens in his "Household Words," which might serve, if not as a model, yet as affording valuable hints: "All newly purchased cows are first placed in a separate field, during four or five weeks; the man who attends on and milks them is not permitted to touch, nor indeed to come near any of the cows in the great pasture. The proprietor himself, when he has purchased strange cows, or even been to market, invariably changes all his clothes, and generally takes a bath, before he ventures among his own herd." Would to Heaven, the Obstetrician and the general Practitioner would observe similar precautions! We should be apt to hear less, I think, of puerperal and infantile mortality.

A rational Quarantine should be established at some insulated point. Besides the residence of the officers and attendants, there should be a hospital to receive the sick, and a comfortable hotel, at a sufficient distance, to accommodate the sound, whom it is necessary to detain during the latent period of infection, and until the last appearance of disease has passed away. A separate convalescent house should also be provided. No communication beyond the limits of the institution should be permitted during the presence of any pestilence. The term of confinement should be prudently

calculated, and rendered as brief as is consistent with the public safety.

But after all, such are the facilities for evasion—such the wide outlets for escape, that if there were not, every now and then, some undisputed and remarkable examples of the beneficial working of even the present insufficient and impotent establishments, one would be disposed to advocate free trade in disease, as well as in commerce, and shrink from the responsibility of imposing the terrible burdens which a strict quarantine brings upon every City, in the immediate financial injury, the pecuniary losses, the obstruction of all business, and the cessation of the several employments by which the poor are enabled to provide for their subsistence. Believing, as I do, in the contagious communicability of many varieties of disease, I can hardly consent to the entire abolition of protective restrictions; but I would have them regulated with special relevancy to the ascertained risk, and with the most reticent regard to the personal rights and necessities of all those unfortunately involved; while I would every where, and at all times place a more confident dependence upon the institution of the widest, most unsparing, repressive and exacting observance of all the rules of a scientific and enlightened Hygiene.

Art. II.—On the Use of the Binocular Microscope. By J. C. Dalton, M. D., Professor of Physiology in the College of Physicians and Surgeons New York.

The introduction of the binocular or double-barreled microscope, has been attended with some advantages in the practice of microscopic examination, which are of considerable value for this department of anatomy. When first attempted, there were various difficulties in the way of its application, which interfered for a time with its success. But these difficulties have now, to a great extent, been obviated by improvements in construction; so that at present there can be no doubt that the binocular form is a real improvement, and that it enables the microscope to accomplish more than it could formerly do.

The idea of a binocular microscope is to present, by allowing the

use of both eyes at once, a stereoscopic view of the object under examination, so that we may judge at once not only of its superficial outlines, but also of its thickness, projections and depressions, and the relations of its different parts. This is impossible in an instrument composed of a single objective and a single eye-piece; for, as we look at one object, through such a microscope with only one eye, we lose, of course, the effect of solidity, which depends on the combined action of both organs of vision. It is true, that we can gain some information as to the solidity, &c., of an object, with the single-barreled microscope; but this is only done by moving the objective up and down, by means of the adjusting screw, and so bringing successively into focus different planes of the thickness of the object. By recollecting the upward or downward direction in which the right or left turns of the screw carry the objective, and, by keeping in mind, in this way, the *perspective* of the various curved and oblique lines which present themselves, we may get an idea of their real connexion, by combining the different pictures thus successively presented to us. But this is a very delicate and often difficult calculation to make; it requires constant and close attention to the mechanism of the instrument; and even with the greatest care, especially when examining a new object, with the structure of which we are not already acquainted, it is not always easy to be sure which of two fibres or vessels lies above and which below the other, or whether they only cross each other, or actually unite and inosculate. If we could have an instrument which would show at a glance, the real arrangement and perspective of the parts, it would render this kind of examination much easier and more reliable. This is in reality accomplished by the binocular microscope.

As all binocular microscopes are constructed with two eye-pieces, and only a single objective, it is not at first easy to see how such an arrangement can give us stereoscopic vision. But when we recollect that the rays from every point in the object under examination, pass through every part of the objective glasses, and then continue upward, through the barrel of the instrument, in a slightly diverging direction, to be again brought to a focus by the eye-piece, it is evident that the rays passing up through the left hand half of the barrel, have come from every part of the object, but in a

direction different from those passing through the right hand half; and that if the two sets could be separated, and received by different eye-pieces, they would give us a right and left oblique view of the object, presented to the right and left eyes, as in an ordinary stereoscope. At all events, such is the appearance actually produced, and there can be no doubt of the reality of the stereoscopic effect of the binocular instrument.

In the binocular microscope now made by Messrs. I. & W. Grunow, which is mainly used in this Country, the separation of the rays is effected by a single prism, (P.) placed in the barrel of the microscope, just above the objective, (O) so that half the rays are turned off into an oblique cylinder, (C.) fastened to the side of the main vertical one (CC.) The prism is inserted into the lower part of the main cylinder, by a moveable slide, by which it can be withdrawn at will. When the prism is so withdrawn, all the rays pass unobstructed, through the vertical tube, and the microscope is converted into a monocular one. By this contrivance, the instrument may be used as a single or double-barreled one at pleasure.

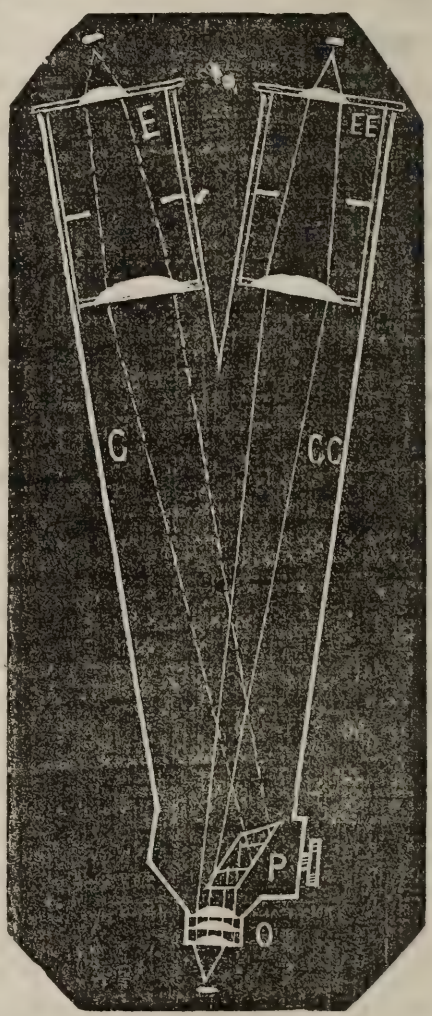

DIAGRAM OF BINOCULAR MICROSCOPE.
O. Objective. P. Prism. C. Oblique Cylinder. CC. Main Cylinder. E. Oblique Eye-piece. EE. Main Eye-piece.

The instrument which I have been in the habit of using, and which was also made by Messrs. Grunow, differs from the foregoing, only in having two prisms instead of one, placed on each side the median line, and in having both barrels oblique, and equally inclined to the vertical line. Both halves of the luminous ray are thus treated alike, and the whole instrument is symmetrical, instead of being one-sided, and the eye-pieces are in a more con-

venient position. I do not know that it has any other advantage over the other form than this. It cannot, like the other, be converted into a monocular microscope, by withdrawing the prism.

The main practical difficulty in the application of the binocular microscope, has been in the necessary illumination. This is provided for, with comparative ease for the low powers, for which we usually have light enough, and to spare. But with the medium and higher powers, the light coming to the eye-pieces being diminished one half by the division of the ray into two pencils, it becomes a very serious inconvenience. The difficulty can only be obviated by using a compound refracting condenser made with the same care as an objective, and placed between the mirror and the object.—With such a condenser, properly adjusted, and with the strong and clear flame of an argand burner, sufficient light may be obtained for the nearly perfect working of the instrument with an objective of one-eighth of an inch focus. I have not succeeded in using it in a satisfactory manner for powers higher than this; but for all the lower powers its operation leaves nothing to be desired.

The principal requisite for success in using the instrument is the adjustment of the mirror and condenser, which must be so placed as to secure *complete illumination of both fields.* This can be ascertained by looking first into one eye-piece and then into the other. If both fields are equally and completely illuminated, when both eyes are applied to the instrument together there will appear to be but one field, with distinct outlines and a uniform light, and if an object be now introduced, it will be seen with a complete, and sometimes surprising stereoscopic effect. But if the illumination of either, or both fields, when viewed separately, be imperfect, on applying both eyes to the instrument there will appear to be two fields, nearly, but not quite overlaping each other, and objects viewed at that time will have confused outlines and an unsatisfactory appearance. The adjustment of the mirror and condenser must then be altered until the two fields melt completely into each other, and the outlines of objects become distinct and prominent.

One great advantage of the double-barreled microscope is, that it practically increases the depth of the focus. With the monocular instrument, everything in the object which is within or beyond

the plane of the focus is quite lost to view, or only produces confusion in the field. But with the binocular instrument we can still perceive the relative position of even those parts which are out of focus, and the effect is nearly the same as if the focus itself were increased in depth. This is a very decided advantage in examining transparent and compound tissues, like those of the entozoa, when these tissues have not been torn up and when it is required to ascertain, not only the form of the separate parts, but their position in regard to each other.

A curious, and hitherto unexplained effect of the binocular arrangement is, that it increases the apparent size of the field, and of all objects contained in it. That is, the single field seen by the combined vision of both eyes looks considerably larger than either of the fields viewed separately. I do not know to what cause this effect is to be attributed, but it probably has nothing to do with the special construction of the microscope, as all luminous objects usually appear larger when viewed with both eyes, than when looked at with either eye separately. The effect is more apparent in the microscope, owing to the exclusion of all other objects from the field of illumination.

Thus far the binocular microscope is, of course, most successful with the lower powers. For injected preparations, under a focus of one inch or an inch and a half, its superiority over the single-barreled instrument is something remarkable; and for the higher powers, with transparent tissues, it will very frequently give us information that could be obtained in any other way only with great difficulty and uncertainty; when used with success, the advantage which it gives is ample compensation for the additional care and trouble required in working the instrument.

ART. III.—NIGHT-BLINDNESS IN THE CONFEDERATE ARMY. By ROBERT J. HICKS, M. D., Williamsburg, N. C.

This is a curious and obscure disease, called, according to Lawrence, nyctalopia, as often as hemeralopia, and as, according to the same high authority, these learned terms have been the cause of

great confusion, I have preferred the simple English term, because it is free from all ambiguity. While the highest authority is on the side of hemeralopia, philology would rather support the latter—nyctalopia being derived from the Greek, meaning incapacity on the part of the eye to transmit the impression of light at night. While in the army I, with others, were in habit of calling this disease hemeralopia. Medical writers seem to differ as widely, with regard to its cause and pathology, as they do in reference to its appropriate name. And the accounts hitherto published, have been so meagre and contradictory, that I thought a more extended notice might not be unacceptable to the medical Profession, especially as it was a source of such very great inconvenience in our army, although not a serious affection in the great majority of cases.

For a disease so common in armies, it seems to have attracted but little attention. It is casually noticed by Baron Young, in Napoleon's Egyptian campaign; called forth a short report in the Crimean war, and has a short notice from Lawrence, and about half a page from Littell.

It is said to occur occasionally at sea; is very rare in private practice; but prevailed in the Army of Northern Virginia, so extensively, as to resemble an epidemic. Soldiers attributed it to the effect of the moon-light falling upon their eyes while sleeping upon the ground. Among medical writers it is considered by one, "a species of amaurosis;" by another, "a species of impaired sensibility of the optic nerve," and by others a "sort of paralysis of the retina," generally concurring, however, in the belief that the disease has its seat in the nervous apparatus of the eye, and that its cause is to be found in the effect of excessive light. While differing from their opinion, I shall not discuss them; but on the contrary give the simple result of my own observations.

This disease prevailed most extensively in the Army of Northern Virginia, when encamped in the vicinity of Fredericksburg.—The affection is gradual in its approach and development. The soldier, who had marched all day without inconvenience, would complain of blindness upon the approach of early twilight, and make immediate application for transportation in an ambulance. At such times he would be found blundering along just as a blind man,

holding on to the arm of his companion. There was an entire absence of all constitutional symptoms, and the eyes appeared upon inspection, perfectly natural. Sometimes both eyes were affected, but frequently only one. In the latter case little complaint was generally made. It was not, therefore, surprising that medical officers should have been sceptical regarding the very existence of the disease, and should have frequently accused the patient of malingering. I confess I shared in this feeling until accident placed in my way, what I consider a certain means of deciding the existence of the complaint. It is the use of simple candle-light in the examination of the eye, after the sun has disappeared. To such light the pupils refuse to respond; and such was the uniform result in all my examinations. It was a curious circumstance, that the pupil should remain dilated, and the patient fail to see—that the ciliary nerves and the retina should lay aside their functions, as soon as the sun disappeared, to resume them again upon his rising. Observing this fact, and justly attributing it to the more stimulating quality of sun-light, I concluded that the affection consisted in a want of tone in the nervous apparatus of the eye—a condition of enfeebled local innervation, reaching no farther than the retina, and a branch of the ophthalmic nerves. The remedy successfully used confirms this view. Cupping, leeching, blistering, mercury and iodid potash, were used extensively, but in my hands did harm rather than good.

Cases frequently recovered spontaneously, after all treatment had been abandoned. But a great many of them were very obstinate—yielding to nothing within the hands of medical officers, except a furlough, and this was the grand remedy, failing in no instance that came under my observation. The disease resulted from the meagre diet, the absence of vegetables and vegetable acids and other depressing influences of a soldier's life. The proof of this is found in the fact that the removal of these influences and the substitution of those of home—its cleanliness, improved diet and relief from mental anxiety and physical exhaustion, never failed of effecting a speedy cure. It is furthermore well known that poverty and want and filth are the fruitful sources of those affections of the eye, which is most similar to this, and which are of most frequent

occurrence in the degraded portions of the populations of large Cities.

As before remarked, in the great majority of cases, this disease is little more than an inconvenience—a simple inability to see at night, with no other unpleasant symptoms. Littell, however, remarks that although the prognosis is generally favourable, if not treated properly, incurable amaurosis is apt to follow. Among the very large number of cases that came under my observation, there never was any such result. There was, however, of this number, amounting probably to more than a hundred, one of great interest, because it seemed that this debility of the nerves of the eye, extended to the brain and produced a fatal result. Our records were all lost at the surrender of General Lee, and I can, therefore, give the history of the case from memory only.

It was in the person of a private of the 23rd North Carolina regiment, and occurred at Williamsport, Maryland, after a long and fatiguing march down the Valley of Virginia. When first brought to me, this soldier was found to have been suffering for several days from inability to see at night. Being examined at night by candle-light, the pupil was found dilated, and refusing to respond to the stimulus of this inferior light. On the next day he complained of considerable debility. In the course of the day, this debility had increased, and was attended with some obtuseness of intellect. The pulse became weaker, and there was a disposition to coolness of skin. When night again came on, the night-blindness was still farther aggravated. The stimulating plan of treatment being clearly indicated, was used, but failed utterly to retard the progress of the disease. On the next morning, all the above symptoms of depression had become greatly aggravated, and within seven or eight hours he died without a struggle. Being interested in this disease, I watched the progress of this case with great interest, and it seemed to me to be essentially one of debility or depression. The enfeebled or atonic condition of the nerves of the eye, seemed to quietly, but rapidly, extend to the great nervous centres, depressing them beyond the point at which vitality was possible.

It may be possible, but I think it hardly probable, that these two

affections—the one of the eye and the other of the brain, should have been coincident only; for the one seemed quietly to deepen into the other, in a similar and most connected manner. There was a gradual exhaustion of all the sources of life—death steadily proceeding from circumference to centre. There was an entire absence of delirium—trismus and spasmodic action of the muscles of the back, attendant upon cerebro-spinal meningitis, under which head, no doubt some would have reported it.

Should this complaint be met with in private practice, which, though very rare, occasionally happens, the proper plan of treatment, as deduced from the above facts, would be the use of those articles calculated to give tone to the system. Iron might be used with advantage, as protracted cases are apt to become anæmic; and as the disease is most prevalant when symptoms of scurvy manifest themselves, vegetable acids, in all probability, would be of service. These are not only great anti-scorbutics, but may be considered tonic, inasmuch as they perform a very important part in the digestion and assimilation of food. It is also highly probable that some local stimulating application, as advised by some, might be of advantage.

But to comprehend the whole plan of treatment in a few words, I would recommend, in the first place, to remove all known or supposed causes—a recommendation that applies as well to all other diseases; and in the second place, to follow that plan of treatment, which approximates most closely in its effect to that of a furlough upon a soldier.

ECLECTIC DEPARTMENT.

"Floriferis ut Apes in Saltibus Omnia Limant."—LUCRET.

I.—THOMAS WATSON, M. D., D. C. L., F. R. S., President of the Royal College of Physicians.

"Forma mentis æterna: quam tenere et exprimere, non per alienam, materiam et artem, sed tuis ipse moribus possis."—TACITI AGRICOLA, XLVI.

"The actions of great men live on in their effects upon the lives of others; character is more enduring than marble. Such is the pur-

port of the words with which Tacitus closes his biographical sketch of a friend's career. No kind of literature less requires apology than biography. It arises from inquiries founded in our nature: no sooner do we hear of any one who has risen to eminence, than we ask, 'Whence and how did he rise?' Objections may be urged against contemporary biography; but they can be applied fairly only to cases where its proper limitations have been disregarded; these we shall endeavour to observe strictly throughout the present work. Such necessary restrictions imply the exclusion of all controversial passages, and of all such details as belong strictly to private life. Our attention will be chiefly directed to the leading facts of professional life, and to the services rendered to the profession and to the public, by discoveries in surgery or medicine, by improvements in practice, and by contributions to scientific literature.

"With due attention to these limitations, we cannot doubt that our series of correct biographical sketches of eminent medical men will be welcome to many readers, and especially, to young men in the Profession, who, in striving onward, want the aid of good examples, and are glad to learn by what steps their more advanced contemporaries have attained their several positions.

"In this first number, we have the pleasure of presenting to our readers the portrait of a Physician of forty years' standing, President of the Royal College of Physicians, and author of the well-known 'Lectures on the Principles and Practice of Physic.'

"Dr. Watson belongs to a family of respectability of Northumberland, and was born on the 7th of March, 1792, in the parish of Kentisbeer, near Collumpton, Devonshire, where his parents were then residing. He received his early education at the Grammar School of Bury St. Edmunds, and, in 1811, was admitted a pensioner of St. John's College, in the University of Cambridge, where he took the degree of B. A., as tenth Wrangler, in January, 1815. Two years later, he was elected a foundation Fellow of St. John's College, and in the course of the next year, took the degree of M. A. When twenty-seven years of age, he began the study of medicine, at St. Bartholomew's Hospital, where he had the advantage of hearing the lectures and of enjoying the friendship of Mr. Abernethy. Apart from all reference to the scientific value of this teacher's exclusive theory of pathology, his lectures had on the students who heard them, that stimulating and encouraging effect which has been well described by an able medical writer. 'We never left his lecture room,' says Dr. Latham, 'without thinking him the prince of pathologists, and ourselves only just one degree below him.' Mr. Watson, with other students of St. Bartholomew's, at that time, shared in the stimulus received from the racy

and dramatic lecturer; but, by no means accepted the narrow conclusions respecting practice to which Mr. Abernethy was led by a favorite theory. During the session of 1820-21, Mr. Watson prosecuted his studies by attending some of the medical classes in the University of Edinburgh, and then returned to Cambridge, in which University, in 1823-24, he held the office of Junior Proctor.

"In the following year, he took the degree or Doctor of Medicine, and married the daughter of Edward Jones, Esq., of Brackley, in Northamptonshire. He soon afterwards began to practise as a Physician in London, and took up his residence in Henrietta Street, Cavendish Square. Here he had the misfortune of losing his wife, only five years after marriage. In the same street, though not in the same house, he has now resided forty years. In 1826 he became a Fellow of the Royal College of Physicians, and, in the following year, on the resignation of Dr. Southey, was elected Physician to the Middlesex Hospital. In the course of his duties in this Institution he acquired that practical knowledge of numerons cases of which he made good use in his 'Leetures on the Principles and Practice of Physic,' subsequently delivered at King's College.—In 1828, when University College was opened, and during the following two years, Dr. Watson, as Professor of Clinical Medicine in that Institution, gave lectures on the cases of disease which came under his treatment in the Middlesex Hospital. He resigned the Chair of Clinical Medicine in 1831, when he was appointed to the Professorship of Forensic Medicine in King's College.

"Meanwhile his private practice had increased; but had left time for the discharge of his duties in Middlesex Hospital. In 1832, an incident occurred in his private practice which has associated his name with circumstances of melancholy interest in the closing life of Scotland's greatest imaginative genius. To Dr. Watson was entrusted the medical care of Sir Walter Scott, on his last voyage from London to Edinburgh and his journey to Abbotsford.

"In 1836, on the resignation of Dr. Francis Hawkins, the services of Dr. Watson were transferred from the Chair of Forensic Medicine to that of the Principles and Practice of Physic. In this office he first delivered, during the session of 1836-37, the lectures which are now ranked among the classical works of modern medical literature. They were repeated, as the author informs us, with slight variations, for four successive years, and were first, printed in the 'Medical Gazette,' at the request of many of his colleagues and pupils of King's College. Dr. Watson, in 1844, published these lectures in a collected form, and a second edition appeared in the course of the following year. The writer stated in

his preface that, owing to other engagements, he had not found time for the thorough reconstruction and revision of his work, and that, consequently, the lectures remained, both in substance and form, nearly the same as when first delivered. No doubt the author's revisionary labour, if ample time had been afforded, would have led to some additions or improvements; but the circumstances that precluded this have had one advantageous result, in the preservation of a colloquial style which, united, as it is, with sufficient precision, and interspersed, on fit occasions, with passages of graver tone, forms one of the attractions of this course of lectures.

"In 1840, when King's College Hospital was established, Dr. Watson declined to migrate from the Middlesex, and consequently, resigned his place as Professor of the Principles and Practice of Physic in King's College. A few years later, in 1844, when his private practice had so much increased that it no longer afforded time for a due preformance of duties at the Middlesex Hospital, Dr. Watson resigned his place in this Institution. He now devoted his whole attention to the practice he had gained by a combination of scientific and practical attainments. He was extensively consulted by fellow practitioners, to whom his services were rendered very valuable by the strict punctuality and carefulness by which they were marked. His successes in consultation cases were not a little facilitated by the long-continued method of taking and preserving notes of cases, all duly dated and entered in an index, and so copious that, in the course of years, they made a goodly array of MS. volumes on the shelves of his library.

"In 1859, Dr. Watson received the unsolicited honour of being appointed one of Her Majesty's Physicians extraordinary. He was consulted in the fatal illnesses of the late Princess Mary, the Duke of Cambridge, and the Prince Consort, and occasionally attended the late Duchess of Gloucester.

"After the constitution of the General Council of Medical Education and Registration, by the Medical Act of 1858, Dr. Watson was the first elected Representative of the College of Physicians in that Council. He resigned his seat in it in 1860. He was first elected President of the Royal College of Physicians in 1862, and has been annually reëlected since that time. In the same year, the honorary degree of D.C.L. was conferred upon him by the University of Oxford, and, two years later, he received the corresponding honorary degree of LL.D. from his own University of Cambridge. Dr. Watson is a Fellow of the Royal Society, of the Council of which he was, formerly, a member. He is a member of the Council of King's College, London.

"In modern medical literature, Dr. Watson holds a distinguished

position as the author of one work—the 'Lectures on the Principles and Practice of Physic.' A happy union of the best qualities that can be combined in a medical teacher characterises this work. We find on the same page the clearness and correctness of studious writing, with not a little of the vigour and freshness of oral teaching. The author uses generally good plain English words. Latin, though the language of a people who made little progress either in science or in philosophy, has a precision that adapts it to the purposes of scientific reasoning; but for giving briefly and clearly practical results and rules, our old English tongue has great advantages. Extensive reading and research are shown throughout the course of lectures, not by multiplied notes, quotations, and references, but by numerous allusions to facts and opinions, gathered from many books, as well as from actual observation. This is a merit demanding special notice; for a show of learning may be so easily made, and has been so common, that a book free from such pretension incurs some risk of being undervalued, as unlearned, because erudition is not served up on every page, in the shape of foot notes and references. True learning, when well assimilated, may be unostentatiously applied to any subject. An author who has read many books on the topic of which he treats, may convey the purport of his reading so unassumingly that his learning may be said to hide itself, while a writer, possessing no such learning, may easily make a show of it by crowding his pages with references to works which he has scarcely used for a better purpose. The absence of many references to authorities is, as Dr. Watson informs us, partly accidental. He wrote, at first, solely for the instruction of his pupils, and without a view to publication. 'He may therefore have used, without acknowledgment, not only the facts and reasonings, but, sometimes, perhaps, the very words of others.' This admission is freely made by the author, in an advertisement prefixed to the first edition; but it should be added that, throughout the work, we find the greatest readiness to acknowledge the services to science and humanity rendered by contemporaries, as well as by the great men of past times, and a total absence of that professional jealousy which, in some instances, seems to spring from an erroneous notion, that the field of medicine is too narrow for generous competition.

"No apology is required for one of the pleasant features of the work—its familiar style in giving illustrative anecdotes that may, at least, serve a good purpose as aids to memory. It must not, however, be supposed that such familiarity of style, in some parts, is attained by any general sacrifice of a proper dignity. We cannot close this brief notice of Dr. Watson's work without giving, as a fair specimen of its general style, one passage in which he treats,

with sound judgment, an important question in medical ethics :— 'Our influence over a sick person, and the efficacy of many of our remedial measures are remarkably increased by our evident acquaintance with the nature of his complaint, and by the reliance which he, therefore, places on our skill and judgment. It is often of material consequence, in another point of view, that the fatal character of a disease should be plainly perceived. A sick man, made aware of his danger, is furnished with a motive and an opportunity for arranging his worldly affairs, in the settlement of which the future comfort and happiness of his family may be very deeply concerned ; for making his will ; and for more solemn preparation for the awful change that awaits him. For these reasons Physicians have, in all periods, endeavoured to read, in the phenomena presented to them by diseases, the event to which those diseases severally tend. To *form* an accurate opinion on this head is, however, one thing, and to *divulge* it, another. There is always some hazard of losing, instead of gaining credit, by strong statements, and confident predictions of the death or the recovery of a patient. If you give an unfavourable prognosis, you incur the risk of losing your patient altogether ; his friends argue very naturally, that you are not infallible, that you may be wrong, that if *you* know of no means of safety for him some other practitioner may, and they will grasp at whatever straw comes near them. Do not suppose that this is merely a selfish view of the matter : it is often of much moment to the patient himself, that he should not be tempted to put his life under the charge of impostors, who will feed his hopes and promise largely, and torture him, perhaps, with their discipline, and have no mercy on his pocket. There are other reasons, too, why we must sometimes conceal the truth from our patients. It often happens that a person is extremely ill, and in great danger, but may yet recover if he is not informed of his peril. To agitate a person, in these circumstances, by telling him that he is likely to die, is to lessen, perhaps to destroy his *chance* of recovery. You kill him if you take away his hope of living. It must be confessed that the duty of the medical man in these cases is very painful and embarassing : the patient and the patient's friends are urgently inquisitive to know whether there is any danger ; or whether he is not yet out of danger. The rule which I have always adopted in circumstances of this perplexing kind, when I see clearly that the case is hopeless of cure, is to fix as well as I can, upon that person among the family or friends of the patient, to whose prudence the real state of the matter may be most safely confided. If I think that there is a possible chance of recovery, and that a knowledge of his danger by the patient would diminish that chance, of course I urge the necessity of speaking to *him* with assumed cheerfulness and confi-

dence: if I see that the case is absolutely and inevitably mortal, either soon or at some little distance of time, I leave it to the discretion of the person with whom I communicate to disclose or conceal my opinion, as he or she may think best. There are, I believe, practitioners, who make it a point, on principles of worldly policy, *never* to speak despairingly of a patient; but I cannot regard such a rule of conduct as honest, or justifiable, or consistent with one's Christian duty.'—*Lectures on the Principles and Practice of Physic*, 2nd ed., Vol. I., p. 109 *seq.*

"Throughout these Lectures, a superior ethical tone characterises the treatment of all those topics to which it is appropriate. The conclusion of the first Lecture is a fair example. If we had not, already, reached the limits of this biographical sketch, it would afford us pleasure, to quote some paragraphs from the observations on the responsibilities of medical practice."

In the London Gazette, of June 19, 1866, is the following announcement:

"Whitehall, June 18, 1866.

"The Queen has been pleased to direct letters patent to be passed under the great seal, granting the dignity of a Baronet of the United Kingdom of Great Britain and Ireland, unto Thomas Watson, of Henrietta Street, Cavendish Square, in the parish of Marylebone, and County of Middlesex, Doctor of Medicine, President of the Royal College of Physicians, and one of Her Majesty's Physicians Extraordinary, and the heirs male of his body lawfully begotten."

II.—Hemeralopia. By A. Quaglino, Professor of Ophthalmology in the University of Pavia.*

Hemeralopia, or day vision, is somewhat vaguely so termed because the vision becomes confused or entirely lost at the approach of evening or during the night, but returns with sunrise. During Spring and Summer it is a very common affection among our peasantry and soldiers in camp; and it is well known to military surgeons that hemeralopia may affect entire regiments, so as to render them quite unfit for service between the evening twilight and the dawn of day.† With greater propriety of language, this affection has been denominated nictamblyopia, because the vision is scarcely ever

* From the "Giorn. d'Oftham. Ital.," p. 33.—T. W.

† A vivid recollection of this singular disease is still preserved by such of our soldiers as took part in the war in the Crimea, where it raged for a long time, and attacked great numbers of men. Many of them, when going out before daybreak on military duty, proved to be almost blind, and were obliged to be guided by their companions until daybreak.

entirely abolished except in far advanced cases, and for the most part the patient sees tolerably by adequate artificial light.

We have already twice called the attention of medical men to this disease, first in an article in the "Gazzetta Med. Italiana Lombarda," written before we knew the use of the ophthalmoscope in the diagnosis of the diseases of the ocular fundus, when, being destitute of positive data as to the true morbid condition which underlies it, we gave a far from satisfactory explanation of its nature. Our object in writing then was to demonstrate the efficiency of fumigation with the vapour of the liver of sheep or other animals, applied to the eye, as we wished to reinstate in public estimation a remedy known from the most ancient times, and recognised as most useful by all who have made trial of it. Again, in the "Giornale Oftalmologico di Torino," edited by Borelli for the year 1860, we issued a short memoir, when, having taken advantage of the ocular speculum, we were able to substitute for the supposed morbid conditions, the true alteration on which this strange aberration of the visual faculty depends, as well in the chronic as in the acute forms. We have since maintained, in common with Gräfe and Donders, that hereditary congenital hemeralopia is almost always the effect of a pigmentary or atrophic degeneration of the retina, presenting a special characteristic form, of which we have given a drawing in the iconographic essay, published in the "Annali di Medicina;" and which appears in infancy, and slowly advances, progressing from the ora serrata concentrically towards the papilla. We have also remarked that hemeralopia is often associated with a striking circumscription of the visual field, the size of which may diminish to that of a small coin, before vision is entirely destroyed, the latter occurring usually in ten, fifteen, or twenty years. We have also stated that hemeralopia is a common phenomenon in syphilitic choroiditis choroido-retinitis, in which we are now in a position to affirm that the retina undergoes also a pigmentary degeneration very like the former, although not identical, because in the latter it appears that the pigment does not belong to the nervous elements of the retina or to their pigmentary degeneration, but rather to an infiltration of choroidal pigment, set free from its cells, into the thickness of the retinal tissue, after having been macerated by the serous exudations of the choroid. We have finally noted how the papilla in congenital hemeralopia is found small, pallid, and ultimately grey or whitish-blue through atrophy of the nervous substance; and that its arteries gradually very much diminish and in time become entirely atrophied, a change which also occurs, but more slowly, in the condition of the veins; thence it appears that the contraction of the visual field and the hemeralopia must be

attributed rather to the atrophy of the optic nerve and retina, than to the presence of dendritic pigment spots, inasmuch as the latter may exist without hemeralopia, which may also depend on torpor of the optic nerve or of the retina itself when the nervous elements composing them are compressed, or have undergone a certain degree of atrophy.

Recently Liebreich has propounded the opinion that such an affection, when it is a family one, is to be placed among the diseases readily developed in the human race, like cretinism, deaf-dumbness, epilepsy, and insanity by a kind of deterioration of the species, which is often exemplified in the children of consanguineous parents. This affection is found, in fact, common in noble families, amongst whom frequent marriages between relations take place, for the purpose of preserving the blood of "magnanimi lombi" pure, in the remote villages of certain valleys whose scanty and scattered inhabitants are restricted to intercourse with one another, and among the Jews where relations frequently intermarry. We have also had occasion to see cases in which this origin could not be doubted.

This congenital affection appears to be the consequence of a retinitis, probably hæmorrhagic, remounting to the period of uterine life, or to soon after birth, and impeding the development of the arteries and optic nerves,—a belief which is founded upon observation of what occurs in adults in whom retinitis or neuroretinitis of every kind is almost always followed by atrophy of the retinal vessels, and of the extremity of the optic nerve. The characteristic black dendritic spots appear to be formed by slight hæmorrhages along the course of the vessels during the retinitis, which in time become converted into black patches of pigment by metamorphosis of the blood globules. Congenital hemeralopia with pigmentary degeneration, ends in total atrophy of the vessels and for the nerve, accompanied by complete amaurosis, which occurs in the more advanced periods of life, aided perhaps by atheromatous degeneration of the arteries, and by that imperfect nutrition of all the tissues peculiar to old age. The object of our present investigation is, however, not the chronic, but specially the acute form which is developed in eyes originally healthy and enjoying good sight.

It is well known that this affection sometimes appears suddenly, and at other times gradually. The subject of it notices that his vision becomes obscured at sunset by a dense mist enveloping the objects of sight, through which he can no longer distinguish them, unless they are well illuminated by a sufficiently bright artificial light; and this obscuration increases until he becomes unable to distinguish the moon or the stars in most serious cases, until he can perceive no object whatever, even though well illumined.

The hemeralopia is also apparent by day, when he passes into a dark or dimly-lighted room.

The affection is not accompanied by painful symptoms, and there is no external alteration of the ocular membranes, except some varicose sub-conjunctival vessels, deficient brilliancy and liveliness of the cornea, and some dilatation of the pupil, persisting even in a strong light, and indicating the torpid condition of the retina.

Neglected, the disease may spontaneously disappear on the arrival of Autumn when the night is longer, and the sunlight less dazzling. It leaves, however, a special tendency to a recurrence, through which the patients relapse at the return of Spring. It is generally developed in March or April, and ends with Autumn. Not infrequently it persists, but then the obscuration continues during the day, the acuteness of vision becomes impaired, and finally the disease terminates in amblyopia or amaurosis.

The individuals most especially liable to it are hepatic and venous cases, who have for a long time been subjected to the action of marsh miasmata, those affected by scurvy or pellagra, sailors on long voyages, and especially soldiers bivouacked in the open country, exposed to the bright rays of the sun and the humidity of night. We have seen the acquired chronic form developed in patients who afterwards died from cirrhosis or cancer of the liver.

The pathological state underlying hemeralopia was unknown to ophthalmologists, some of whom, as Scarpa, held it to be an intermittent amaurosis of gastric origin; others, a species of masked fever; others, a particular intermittent neurosis arising from rheumatism, from marsh miasma, &c.; others, finally, considered it a kind of exhaustion of the retinal sensibility produced by the prolonged action of too bright light reflected from dazzling surface, such as the white ground in Summer when the day is much longer than the night.

These pretended pathological facts were alternately suspected and admitted by practitioners, until ophthalmoscopic examination revealed those alterations of the fundus oculi which accompany the development and course of the disease. We will presently discuss these more at length, as we have had the opportunity, by the kindness of our excellent friend and colleague, Cavaliere P. Giudici, military surgeon in Milan, to examine in the Hospital "del Monastero Maggior," a considerable number of hemeralopic soldiers coming from the camp, and to observe these very changes.

It is, we think, important to direct the attention of our medical brethren to them, with the view of showing that hemeralopia, instead of being the nervous disease it was formerly considered, is rather a symptom of a material and recognisable morbid process, which,

though slight, and susceptible of spontaneous cure in the early stages of the disease, provided the patients withdraw themselves from the action of bright light, yet may be in time and after repeated recurrences, the point of origin of more serious alterations of the retina and optic nerve, that may eventually lead to amblyopia or even amaurosis.

The following are the constant alterations which we have found in thirty soldiers, all of whom had come from the camp of instruction at Somma. They were observed at different epochs from the commencement of the disease, some on the first, second, or third day, and others after weeks or even months.

1. Whitish-grey haziness of the whole retina, especially around the disc and along the retinal vessels, after invading the disc itself.

This haziness is more or less intense according to the duration of the disease and the degree that the vision has become impaired. In consequence of it, the subjacent vascular layer of the choroid is distinguished with much difficulty by the ophthalmoscope. The retinal haziness gradually disappears in soldiers after some days in a dark room, or after other treatment.

2. Manifest congestion of the veins; they are also tortuous, and contain a dark blackish blood, seeming almost coagulated.

3. The central arteries are often enlarged in the region of the disc, but when the disease has lasted for some time, they appear lessened and hidden here and there in the parenchyma of the retina, which presents a thickened appearance.

4. In many cases, when the disease is recent, the disc looks red or roseate through most delicate injection of the capillaries, and development of collateral vessels. In these cases also the rete of verticose choroidal vessels appears closer, the vessels redder and more swollen.

5. The obscuration of the retina is in time dissipated, the purple transparency being restored; but both the arteries and the veins become smaller and more slender, and the contours of the disc lose their regularity and are fringed by streaks of dark pigment. Many times the radial fibres of the optic nerve become opaque, so as to render the bounds of the disc indistinguishable from the rest of the retina, which is also slightly clouded.

6. When the disease has many times recurred and the patient become amblyopic, the appearances first mentioned are usually replaced by those of atrophy of the vessels and disc, attended by the characteristic white reflection of the nervous substance, more or less marked.

It results from the alterations described, that the process on which the hemeralopia depends is seated in the extremity of the

optic nerve, in the retina, and in its vessels; and that the affection must be considered as a venous stasis, accompanied by serous infiltration of the retinal substance, and of the nervous fibres of the optic nerve, which form the disc.

This serous exudation impairs the transparency of the retina, renders it greyish and consequently visible, and compresses the layers of rods and cones, making them less apt to receive the rays which emanate from objects illuminated by too weak a light, such as that of twilight or of night.

The symptom of hemeralopia is not confined exclusively to this single species of retinitis, and does not constitute *per se* a special form, for it is often found in syphilitic retinitis, in serous retinitis albuminuria, in amaurosis from progressive atrophy of the optic nerves, with or without pigmentary degeneration, and sometimes also in arthritic or rheumatic choroiditis, in which there is an evident compression of the bacillary layers.

Hemeralopia is a frequent symptom in cases of pellagra, terminating sometimes in progressive atrophy of the optic nerves, a result promoted and sustained by chronic pio-meningitis, which is developed in many cases, and the occasion of all those other nervous perturbations accompanying the disease to which we are referring.

The predisposing causes of this disease are no doubt those abnormal conditions of the abdominal viscera which favour venous stasis in the region of the superior cava, such as long-continued intermittent fevers which have left infarctus in these viscera, gastric fevers, and the scorbutic dyscrasy. The exciting causes are the dazzling light of the sun, the white reflection of the earth, or the glittering one of water, through which the retina by excess of stimulus becomes irritated and congested. Probably some part is also played by suppression of perspiration and the rheumatic poison.

Hemeralopics have generally a leuco-phlegmatic appearance, are of a yellow colour, or even a decidedly jaundiced hue, showing the disturbed action of the liver, and have swollen gums readily bleeding.

Hemeralopia frequently recurs in soldiers who return to camp too soon after treatment, and in the same season in which the disease attacked them. It often supervenes in Spring or in the following Summer. We have observed cases in which the patients were hemeralopic for the fourth or fifth time, and who yet recovered perfectly.

Three effective means of treatment have been tested by experience, one perfectly rational, and which fully satisfies the casual indication, *i. e.*, seclusion of the patient for a number of days in a thoroughly

darkened room; another, empirical and popular in its action, namely, fumigation with the vapours from sheep's liver or that of other animals; and, finally, the use of cod-liver oil.

We have not yet made a sufficient number of comparative trials to determine to which of these three means the preference should be assigned.

The dark chamber and the vapours suffice in more recent cases, the oil in obstinate and rebellious ones; at least, so it is asserted by some military surgeons.

When, however, the disease is of old date and the retinitis continues and threatens to lead to atrophy, which progresses afterwards independently of inflammation, it will be necessary to have recourse to other more energetic therapeutical aids, as tartar emetic if there are gastric complications; calomel alone or with aloes if there are engagements or infarctus in the abdominal viscera; sulphate of quinine if there is clearly marsh infection; fresh vegetable food if the affection is of scorbutic origin; nutritious meat diet and baths if it is caused by pellagra. Flying blisters to the temples, to the mastoid processes, or to the forehead, have been found of use in rebellious cases by English physicians. Diaphoretics and bitters have also frequently been recommended. In sailors who have been long at sea, the disease often spontaneously ceases in a few days after landing.

The prophylactic treatment is by protecting the eye from too bright light, and by means of smoke-coloured or metalfoil-lined glasses.—*Ophthalmic Review.*

III.—GUN-SHOT WOUNDS—ARMY OF NORTHERN VIRGINIA. [An extract from a Report on the Sickness and Mortality in the Armies of the Confederate States for 1863.] By F. SORREL, M. D., Surgeon and Inspector of Hospitals.

Gun-Shot Wounds.—The proportion of these was less than that of last year by two per cent.; that is to say, while gun-shot injuries, during the period covered by the report of last year, amounted to 9.8 of the whole number of cases reported; for 1863, they only reach 7.7. It will be remembered that the campaign of 1862 was conducted with the utmost vigour, and that the army fought, in quick succession, many sanguinary battles, commencing with that of Williamsburg and ending with that of Fredericksburg; including between these two the battles around Richmond, Cedar Mountain, Manassas and Sharpsburg, each of which resulted in a heavy list of casualties to the troops engaged.

The mortality from these causes, as might be expected, was not nearly so great during this year as it had been during the one previous. The men had become hardened and better able to resist the influence of climate and exposure, and the battles, which occurred during the year, transpired at a season far more favorable to recoveries. Thus, instead of being crowded together in hastily extemporized hospitals during the intense heat of mid-summer, as they were in 1862, the battle of Chancellorsville, fought early in May, gave to its wounded the benefit of a most delightful and salubrious season for treatment and recovery, while that of Gettysburg, still later, sent only to our hospitals the more slightly wounded, leaving the grave cases in the hands of the enemy to die, or to be otherwise accounted for in a manner not known to our reports.

The surgical operations performed on the field at Chancellorsville did remarkably well. Generally, the wounded reached the hospitals in this City in a condition favorable to recovery, and as before stated, the excellent condition of our hospitals seemed to repress all tendency to the prevalence of erysipelas or gangrene.—Indeed, never before or since have they been so entirely free from the presence of these diseases, as they were during the Summer and Fall of this year.

In the hospitals, the mortality from wounds, during the year 1862, amounted to 11.2; in 1863, to 2.3; and this difference is really increased still further in favour of the latter year, by the fact, that the wounded from the battle of Fredericksburg gave most of its mortality to the year 1863, without adding at all to the number of cases for that year—these having been already embraced in reports for 1862.

The figures, as we have them in our reports for this year, exhibit 42,885 cases of wounds treated in hospitals, and 999 deaths—this yields a mortality of 2.3. But, in order to arrive at a more accurate estimate of the proportion really dying from wounds in hospital, it will be well to assume that the number reported from the field were all that were treated in hospital; and this being 27,206, and the mortality 999, we have a per centage of 3.7, which, it is believed, approaches nearer the truth.

Adding the number dying in hospitals to those reported from the field, we have an aggregate of deaths for the year in field and in hospital, from gun-shot wounds, of 1,723, or 2.4 of the whole number of cases reported.

This, however, is much too small, because it is impossible, as before stated, with our present form of reports, to avoid the frequent multiplication of cases by transfer, &c.

During this year, one case of successful amputation of the hip-joint was reported. It occurred in the person of J. K., private company B, 56th Pennsylvania, aged 23, and by occupation a farmer. He was wounded April 29th, 1863, near Fredericksburg, sustaining compound comminuted fracture of the femur. Disarticulation, by antero-posterior flaps, was performed the same day on the field.—He fully recovered, was paroled and sent North July 14th, 1863. (Operation performed by Surgeon E. Shippen, U. S. A.)

It is proper to remark, also, in this connection, the many successful cases of *amputation*, especially of the upper-third of the thigh, occurring in our reports. Among them may be mentioned Lieutenant-Generals Ewell and Hood, (the latter now General Commanding the Army of Tennessee,) both of whom have been restored to duty, in the full vigour of health, with thighs amputated just a little short of the hip-joint. Added to these are many others, of less distinction, it is true, but not the less attesting the skill and ability of Confederate Surgeons in the performance of an operation, regarded heretofore as almost uniformly fatal. Indeed, so much had this come to be regarded the case, that recently an order emanating from the Federal Surgeon-General forbids such operations on the field, not only at the upper-third, but anywhere along the continuity of the thigh.

This question of Conservative Surgery in compound fractures of the femur, is one which is receiving the most earnest attention of military surgeons, and though it has been, to some extent, decided in the United States, we are obliged, in balancing the merits of the two methods of treatment, to adopt a different opinion. With us the results, as elicited from our reports, exhibit a slight per centage in favour of the operation itself on the field. Thus, of 77 cases of primary amputation of the thigh, at the upper-third, 40 recovered, and 37 died. The same favourable results are also found to have attended the conservative method of treatment in similar cases; for, of 221 cases, where amputation was not resorted to, 116 recovered.

These results are indeed remarkably favourable; for surpassing, in this way, any heretofore reported or known to the profession.

As between the two modes of treatment, the difference in the results is but slight, as shown by the figures given above, and as will be more perfectly understood when the tables annexed shall be examined. Guided, then, by our reports, it may be safely accepted as a rule, that the better plan, in general, is to operate on the field. The greater readiness with which the patient can be transported from the field; the greater ease and comfort realized under these circumstances, when the limb has been removed; the lesser time required in hospital for recovery, would all seem to point to its

adoption as the wiser policy. Still, in these and in all other questions of surgical interference, the medical officer should be governed by the peculiar circumstances attending each case.

Many *resections* were performed during this year; and while in very many instances with results altogether favourable, so far as recovery alone is considered, yet, we are inclined to think, in nearly all cases, leaving limbs of very doubtful utility. Indeed, when it is considered that these operations are much more fatal than simple amputation, exposing the patient for a much greater time to the evil influence of hospital atmosphere; involving more frequently, too, attacks of erysipelas, gangrene, and pyæmia, it may be well questioned if our surgeons do not too often resort to them.

The shoulder-joint, we sometimes think, is the only one in which resection promises all the good results claimed for it. In the elbow, if the entire joint be removed, no possible effort of nature can supply the lost motion; and the slight prehensile power of the fingers, which may continue, can scarcely atone for the awkward, useless and ungainly limb remaining.

Exsection of the knee joint we cannot help regarding as positively reprehensible on the field, and scarcely less so in hospital. But one successful case is reported during the year, (Surgeon J. B. Read;) at last accounts, (September, 1864,) the patient was fully recovered, but with a limb shortened by several inches, and union only ligamentous. Amputation has been asked for by him, and will be performed as soon as the conditions of his health may justify it.

One successful case of resection of hip-joint has likewise been reported by Surgeon J. B. Read, and though the leg will never be of any use, yet it is fair to say, that to this operation may be due the preservation of the patient's life, which might have been more seriously imperilled by disarticulation.

Frequent cases of gun-shot wounds, healing by first intention, have also been reported. It is difficult to understand how this can be so, when all our theories of repair and restoration of lost tissues have been based on inflammatory action, leading, of course, to suppuration and granulation. Still, the evident care and truthfulness which accompany the report of the cases attest the fact beyond all doubt; and it is hoped that future investigations on the part of the Medical Staff will, in time, yield much that is interesting and instructive in this connection. Already, it has been proposed (by Surgeon J. J. Chisolm) to convert all gun-shot wounds into simple incised wounds, by paring the ragged edges, and nicely adjusting the lips by means of sutures or straps, excluding the atmosphere, and thus effecting a cure by absorption and remodelling, without the aid of suppuration.

Tetanus.—In reviewing carefully all the circumstances connected with gun-shot wounds, as exhibited in the reports before us, it would be singular did we not remark the occasional occurrence of tetanus.

This complication of gun-shot wounds, so obscure, so fearfully fatal, and so much to be deplored, is fortunately seldom met with. Indeed, it has always been a source of wonder to all writers on military surgery that it so rarely occurs. In our reports for 1861, we find that in 1,750 cases of wounds of different characters, there were thirteen cases of tetanus—0.75, or one case of tetanus in 134 cases of wounds. Of these only three are reported as having ended fatally, giving a ratio of mortality of 2.3, or one death in four cases: a result which clearly proves the inaccuracy of our earlier reports.

In 1862, the consolidated reports from hospitals present 45,974 cases of wounds, and only 53 cases of tetanus—0.11, or one case of tetanus in 867 cases of wounds. Of these 53 cases, 28 terminated in death—52.8, about one death in two cases, a much larger per centage of mortality than in 1861—but still, we have reason to suspect, very much below the truth. Many of the cases reported tetanus are, doubtless, mere cases of traumatic spasms, hence such apparently favourable results.

Tetanus was doubtless of more frequent occurrence in our hospitals than would appear from the reports, as it is well known that cases are generally reported under the disease they first enter with, which ordinarily is "Vulnus Sclopeticum." It is only recently that surgeons have been reporting "supervening diseases." In referring to our special reports of gun-shot injuries involving tetanus, covering the whole period of the war up to the present time, and which are evidently drawn up with great care, we find 66 cases recorded. Of these, six only recovered, giving a mortality of nearly 91 per cent.

Assuming, then, that these constitute the entire number of cases of decided tetanus which have occurred on the whole number of gun-shot wounds treated, (56,775,) we have the proportion of 1 case of tetanus to every 860 cases of gun-shot wound.

McLeod, in his Surgery of the Crimean War, does not give the proportion of tetanus to wounds, but he says he could only hear of thirteen cases of tetanus in the English army throughout the Crimean war. These were all fatal—with only one exception. In the last East India war, nineteen cases are reported, and only one recovery. Alcock gives the proportion of cases of tetanus to wounds as one in seventy-nine. Stromyer states, that during the Schleswig-Holstein war, the proportion was 3 in 1,000. In 1830,

of 390 cases of gun-shot wound, there was only one case of tetanus in the *Hotel Dieu* at Paris.

The following tables which exhibit the general results of amputations and resections thus far collected, and carefully prepared from reports throughout the Confederacy:

Resections.

	Sh'ldr.	Elbow.	Wrist.	Hip.	Knee.	Total.
Primary—						
Successful	28	22	2	--	--	52
Unsuccessful	13	3	--	--	2	18
Secondary—						
Successful	20	23	1	1	1	46
Unsuccessful	7	6	--	1	1	15
Useful Joints	2	7	--	--	--	9
Total	70	61	3	2	4	140

Disarticulations.

	Sh'ldr.	Elbow.	Wrist.	Hip.	Knee.	Total.
Primary—						
Cases	54	3	5	1	2	65
Deaths	25	1	2	2	3	33
Secondary—						
Cases	9	2	--	--	--	11
Deaths	20	1	--	--	6	27
Total	108	7	7	3	11	136

Amputation of Thigh.

	Upper Third		Middle Third.		Lower Third.		Total.
	Cures.	Deaths.	Cures.	Deaths.	Cures.	Deaths.	
Circular—							
Primary	19	11	33	14	42	27	146
Secondary	3	7	7	14	12	21	64
Flap—							
Primary	6	4	15	10	35	11	81
Secondary	3	1	3	9	5	5	26
Method not stated—							
Primary	15	22	24	21	35	27	144
Secondary	4	16	5	19	14	35	93
Total	50	61	87	87	143	126	554

Compound Fracture of the Thigh treated without Amputation.

	Recoveries.	Deaths.	Days.	Inches.
	116	105	..	..
Average period of recovery	..	..	104	..
Greatest period of recovery	..	..	255	..
Least period of recovery	..	..	41	..
Average period of death	..	..	52	...
Greatest period of death	..	..	185	...
Least period of death	..	..	1	...
Average amount of shortening	..	..	..	1.9
Greatest amount of shortening	..	..	..	5.0
Least amount of shortening	..	..	..	0.5

Consolidated Table of Amputations.

	Primary.				Secondary.			
	Cases.	Cures.	Deaths.	Per cent.	Cases.	Cures.	Deaths.	Per cent.
Thigh	345	213	132	38	162	43	119	67
Leg	314	219	95	30	150	76	74	49
Arm	294	252	42	14	140	87	53	37
Fore-Arm	69	61	8	12	45	35	10	22
Shoulder-Joint	79	54	25	31	28	8	20	71
Elbow-Joint	4	3	1	25	3	2	1	...
Wrist-Joint	7	5	2	28	...	...	...	...
Hip-Joint	3	1	2	66	...	...	...	...
Knee-Joint	5	2	3	60	6	...	6	100
Ankle-Joint	6	4	2	33	4	4	...	...
Tarsal-Joint	16	13	3	19	8	7	1	12
Total	1142	827	315	27	546	262	284	51

C. S. Med. and Surg. Journal.

[Mr. Jones, of Jersey, performed the operetion of resection of the knee-joint 15 times, with one death; Mr. Ferguson 40 times, with 15 deaths; at Exeter Hospital, 12 operations with no deaths; Dr. Humphrey has operated 13 times, with one death; at King's

College there have been 10 operations performed, with one death.—Cases from civil life.

Mr. Price has collected the records of 250 cases; the mortality in these is not greater than that which obtains in amputation through the lower third of the thigh. Many of these patients walked on crutches in six weeks, and some in three weeks after the operation.—Cases from civil life.

Mr. Parke was the first to perform this operation in surgery; period, 1782.

This patient of Mr. Parke made several voyages to sea, in which he was able to go aloft with considerable agility, and to perform all the duties of a common seaman.—Ed.]

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas; ex factis, vero veritas."

Clinical Notes of Cases Treated in Different Hospitals of the Late Confederate States—Continued. By James M. Hollo-way, M. D., Professor of Physiology, University of Louivisllle, Ky. [From private Note-Book.]

Case 14.—C. S. Chimborazo Hospital, Div. 5, Richmond, Va. [Special notes of this case were recorded by Surgeon E. M. Seabrook, in charge of the division, who performed the operation. I have preserved only the prominent facts, and a brief note of the post-mortem appearances observed by myself.]—E. F., soldier, aged about 25 years, health good; wounded June 2d, 1864. Gun-shot; left shoulder; ball traversing the subclavian triangle. Alarming hæmorrhage occurred suddenly on the evening of July 24th, twenty-two days after receipt of injury. The external wounds had well nigh closed.

Diagnosis.—Indeterminate hæmorrhage from wound in subclavian artery. Chloroform having been carefully administered, the anterior wound was enlarged and a ligature thrown around the artery, above the bleeding point; operation performed by candle-light; the sense of touch alone guided the operator in finding and securing the vessel; shock following the operation, which was tedious and attended with considerable loss of blood, very great.

Another slight hæmorrhage occurred a few days after, proceeding from tranversalis colli, which was tied. Treatment; perfect rest; anodynes and nutritious diet.

June 6th.—Patient died to-day, after another hæmorrhage. *Autopsy* (made by myself)—The surrounding tissues were disor-

ganized; the first rib had been fractured by the missile, the artery was destroyed throughout its entire extent, and the axillary was invaded.

Case 15.—C. S. Hospital, Leesburg, Va.—W. S., private, Co. C, 16th Mississippi Regiment, aged about 21 years, farmer, health good; received a wound at the battle of Ball's Bluff, October 21, 1861. Gun-shot; lower third left leg, fracturing fibula. Another soldier, belonging to the 8th Virginia regiment, was admitted to the hospital from the same battle field, with a wound similar in appearance, but not involving the bone. This man was carried into the country without my knowledge, and in the hurry and confusion occasioned by the admission of a large number of wounded men, the cases were confounded, S.'s wound being regarded the less severe. Three days after receipt of injury, a report that the enemy was threatening another attack, all able for transportation were sent to the rear. S. rode on horseback from Leesburg to the former residence of President Madison, distant seven miles. Nothing was done for the case, farther than cold water dressing, and rest in recumbent posture, for ten days, at the end of which time profuse hæmorrhage occurred. Upon consultation with Surgeon J. T. Gilmore and Dr. R. C. Devine, of Mississippi, it was decided to enlarge the wound, and search for the bleeding vessel. Upon incising the soft parts, the above named condition of the bone was discovered. Hæmorrhage being controlled by turniquet, about five inches of the lower third of the fibula were excised with a chain saw The surrounding tissues were disorganised and a fruitless search for the wounded vessel was made. No doubt as to the involvement of the posterior tibial was entertained, though I confess such was my inexperience at the time, I was disposed to regard the hæmorrhage as capillary, in order to excuse myself for not securing the vessel. After thoroughly cleansing the wound, it was plugged with pledgets of lint saturated with a strong solution of tannin, and cold irrigation ordered. The limb was enveloped by a roller bandage; anodynes to relieve pain and induce sleep.

Repair progressed rapidly; hæmorrhage did not recur; and in a few weeks he was sent to his home in Mississippi.

September, 1866.—A few days since a mutual friend informed me that Mr. S. was in perfect health, and was able to walk without pain and without limping.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

FLORENCE, ITALY, November, 1866.

The late war with Austria, short though it was, has not failed to tax the ever dormant faculties of the Italians in various ways, and its results are as good, as varied and as important, as if it had been a strategical success, instead of a failure. It may be said, that its effects are worthy of a better cause. To its real and fictitious exigences we are indebted for three inventions, which came too late to be of any practical use, but which, nevertheless, have a certain scientific interest that must outlive the occasion they were intended to meet.

Little need be said about Signor Muratori's cuirass, which, rendering the human body invulnerable, might possibly wound the susceptibilities of our Professional Body. Yet, the little that is known about this curious invention, ought not to be withheld from your readers, as it cannot fail to interest the American public. Signor Muratori, a Sicilian, has invented a cuirass, not weighing more than fifty-four ounces, yet large enough to cover the whole of a man's trunk, entirely free from metallic ingredients, and so pliable that it does not interfere with the movements of the most agile soldier. This cuirass was tested, in one of the forts of Florence, in presence of the Minister of War, and several officers of the Italian army, and it was found that a shot fired with a cavalry revolver, which, at five paces distance, can penetrate a wooden plank five inches thick, did not pierce or lacerate the cuirass, although the powder charge and the distance were the same. A herculean grenadier was then ordered to attack the cuirass with the bayonet, which he did twice very vigorously, but without causing any damage to it. Sabres and swords proved even more powerless, and the very sharp point of a lance, wielded by a robust lancer, glided off (to use the expression of an eye-witness,) like the point of a needle from a steel plate.

There is no reason to doubt the accuracy of these observations. But, alas! this wonderful weapon of defence came too late, as everything does in Italy.

Clypeum post vulnera sumunt, and as Signor Muratori will not tell us the name and nature of its material, we need not dwell on it any longer. May it shield many a brave man's breast in wars to come.

I now come to a less mysterious and more strictly scientific subject—viz: a new *compressor of arteries*, invented by Dr. Filippi,

for the special use and benefit of the Italian soldiers. It is both simple and cheap, and as it has passed successfully through more than one ordeal in Professor Burci's clinique at Florence, I will endeavour to give a description of the little apparatus. It consists of a lamina of good steel (such as is used for watch springs) about forty-six centimeters (or 17 inches) long, and twenty-eight millimeters wide. At one end of this lamina, a piece of metal is fixed in the manner in which the front part of a slipper stands on its sole, and behind it is a series of small holes, (as in a dog's collar,) large enough to fit a little metallic knob, which is fixed to the other end of the lamina. At a distance of about twelve centimeters from this knob, there is a well stuffed, highly convex cushion, of twenty-eight millimeters' thickness, and a crescent shaped piece of wood, covered with chamois leather, which held loosely against the steel band by means of a copper ring, is allowed to slide between the fixed cushion and the hole, in such a manner, that its convex side touches the steel band and its long axis remains parallel to the axis of the lamina.

It should be mentioned, that the steel is not bent into a spring, but lies flat when left to itself, becoming a spring only in a state of unstable equilibrium. In applying this apparatus round a leg or an arm, the Surgeon has to grasp, with the left hand, the little cushion which is to compress the artery, and pushing one finger of his right hand into the slipper shaped thimble mentioned above, he fits the steel band round the limb as tightly as may be deemed necessary for the stopping of the hæmorrhage. When the band is properly locked (the knob having caught one of the holes,) the moveable piece of wood is pushed into such a position, that the imaginary line connecting it with the cushion, represents the direction in which the greatest pressure is required.

The advantages of this apparatus are obvious. In the first place, it enables the Surgeon to regulate and to change the direction of the maximum of pressure, (which need not always be the radius) by moving the wooden fulcrum.

Secondly, the force which is constantly developed in the bent steel, is centrifugal. The compression can, therefore, be more easily confined to one particular point, or rather to one particular chord of the circle. The remainder of the limb's circumference, is not only not compressed, but not even in contact with the apparatus, and thus the very important advantage is gained, that the venous and lymphatic circulation remains entirely free. The unintentional compression of these circulations, is notoriously one of the greatest drawbacks of ordinary bandages, and of many other surgical contrivances for the compression of arteries.

Thirdly, the apparatus can never lose its force and efficacy. It can be applied without any loss of time, even by an unskilled hand, and it is so small in bulk and so light in weight, that a soldier might carry it in his knapsack or even in his pocket, so as to apply it, when wounded, on the very battle field, without waiting for the Surgeon who cannot be omnipresent, and whose tardy succour is so often the only reason why arterial hæmorrhages become fatal to the wounded soldier.

The inventor admits that for the compression of the subclavia, of the aorta, or of the iliaca externa, the size, and perhaps, also the shape of the apparatus, would have to be modified.

The third invention, on which I wish to entertain your readers, was made also about the time of the late war, by Dr. Capodieci, of Naples. It consists in a hæmostatic liquid, which is, as yet, an arcanum, and would, as such, hardly be worthy of our attention, had it not, in consideration of the circumstances that suggested its invention, been subjected to a series of experimental tests, which leave no doubt whatever, not only as to its efficacy, but as to its real superiority over every one of the hitherto known hæmostatics. These experiments were made, at the request of the Sanitary Council of the Italian army, in the Scientific Museum of Florence, by Professor Schiff. It may not be known to the general reader, that Prof. Schiff is German by birth and education, and that he came to Florence only four years ago, at the request of the Italian govern ment, to occupy the Chair of Physiology. But the readers of the *Comptes rendus de l'Académie des Sciences*, must be familiar, not only with his name, but also with his powers of judgment and observation. Until his advent, physiology was hardly cultivated in Italy, and the few *savants* that indulged in it, proved too imaginative and too impulsive for such a sober pursuit, and arrived at results worse than accurate, which might have given rise to fanciful theories and mischievous applications, had not Prof. Schiff's timely intervention chilled the ardour of these *dilettanti*. His teaching, and the example he sets in his own laboratory, cannot fail, in the long run, at least, to raise the study of physiology in Italy to as high a level as the peculiarities of the Italian mind will permit.

The authority of such a man gives, naturally, great weight to any conclusion that may be drawn from his own experiments, and as he has thought it worth his while to test Dr. Capodieci's liquid in ten separate experiments, all made in presence of a committee of the Sanitary Council, and of two other witnesses, I will endeavour to give you an account of some of his experiments, which may be considered as typical.

The official report begins, by stating that the hæmostatic liquid

in question, is colourless and clear, of slightly aromatic taste and smell, that it shows no alkaline or acid reäction, and that it forms no precipitate in a solution of ferrocyanide of potassium. Then follows the description of the ten experiments. The first was tried on a large and healthy dog, and without etherization. Having laid bare the left carotid, and duly separated it from the surrounding tissues, by means of a probe, Prof. Schiff made an incision, extending transversely over two-thirds of its width. He then applied lint, well soaked with the hæmostatic liquid, renewing it as often as it became overcharged with blood, and in eight minutes the hæmorrhage had ceased entirely. Forty-eight hours after the experiment, the bandage and the lint were removed, and the wound was found to be in a good condition, containing only a small clot of blood. No arterial pulsation could be perceived in the upper or peripheric part of the carotid and in its ramifications. The wound healed without suppuration, and on the seventh day, the animal was killed with a dose of woorara. The autopsy showed, besides the little clot just mentioned, which covered the surface of the wound, a large fibrinous thrombus, two or three centimeters long, entirely filling the lumen of the artery, above, as well as below the incision, and terminating on both sides, in long fibrinous filaments, which were firmly attached to the parietes of the blood vessel.

This experiment clearly showed, that Dr. Capodieci's hæmostatic induces rapid coagulation of the blood. But in order to ascertain whether the prompt and complete cessation of the hæmorrhage was due to the coagulum alone, or also to a simultaneous vascular contraction, the following experiment was made. One-half of the right ear of a white rabbit was cut off, the direction of the cut forming an acute angle, with the great central auricular artery. After a short time, the blood began to ooze out from the mouth of this artery, the contractions of which can very easily be observed in white rabbits. And this little hæmorrhage or rather *stillicidium* was for ten minutes treated with Dr. C.'s hæmostatic, but could not be stopped. A small coagulum was, indeed, formed, as in the former experiment, but it adhered to the lint, instead of adhering to the wound, and came off together with it, leaving the mouth of the artery uncovered. The anatomical position and physiological nature of the auricular artery of the rabbit justify us in concluding from this experiment, that the hæmostatic action of Dr. C.'s liquid, is not due to vascular contraction and can, therefore, only show itself, where the lumen of the artery is sufficiently wide, and the surrounding tissues sufficiently yielding for the free passage of the hæmostatic liquid into the artery, or in other words, for the formation of a thrombus.

In another rabbit, the crural artery, and the crural vein, were lanced, after thorough etherization, and the hæmorrhage which, of course, bade fair to become a very copious one, was stopped, by the application of Dr. C.'s liquid, in seven and a half minutes, and so completely stopped, that in twelve minutes the lint could be removed. This experiment showed, that the promptness of the hæmostatic action, and the solidity of the coagulum are by no means diminished by the effects of etherization.

The crural arteries of two other etherized rabbits, were slit open and one of these animals was treated with perchloride of iron, the other with aqua rabeliana. In summing up the results of these and other experiments, Prof. Schiff comes to the following conclusions.

1. The hæmostatic action of Dr. C.'s liquid, is due to the formation of a thrombus, and not to any increase of vascular contractibility.

2. The coagulum produced by it, differs from the coagulum produced by other hæmostatics, inasmuch as it resembles, both in colour and firmness, more the cruor sanguinis produced by spontaneous coagulation, whereas, mineral or organic hæmostatics are apt to produce a blackish and pasty coagulum, which, alone, is never firm enough, and rarely copious enough to stop the hæmorrhage, and does so only in consequence of the formation of a secondary more solid coagulum, resulting from the stagnation of blood underneath. The coagulum produced by Dr. C.'s liquid, obtaining at once the firmness and solidity of the secondary coagula, formed by other hæmostatics, the action of this liquid must be considered as more prompt and more reliable

3. Hæmorrhages from large and freely pulsating arteries are more easily stopped by this liquid than venous hæmorrhages, or those from small and closely imbedded arteries. As the former are stopped by a thrombus (which remains intact, even after the removal of the lint) and the latter by a superficial or primary coagulum only, it follows, that in venous hæmorrhages, and also in compound lesions of both arteries and veins, the lint should not be removed until all danger of a renewal of the bleeding has ceased.

4. In surgical operations Dr. C.'s liquid offers the advantage, that the coagula produced by it, do not disfigure the surface of the wound or change its colour (as does the perchloride of iron,) or irritate it by the contact of foreign saline or metallic bodies.

5. Etherization does not interfere with the hæmostatic action of Dr. C.'s liquid.

6. Dr. C. having, in presence of Prof. Schiff, swallowed twenty grammes (or about five drachms) of his liquid, with perfect impunity, it follows that it must be free from poisonous ingredients.

And Prof. Schiff ends by saying, that of all known hæmostatics, whose action depends on the formation of a thrombus, Dr. Capodieci's liquid is, in every respect, the best.

It is a curious circumstance, that many of the very best, and and most celebrated hæmostatics, were invented by Italians, the acqua pagliari for instance, which is still used in Rome and Naples, as the hæmostatic *par excellence*. It is only fair to suppose, that in the classical land of the stiletto, the people are good *connoisseurs* in these matters, and will not be slow in discovering the superiority of the new remedy, unless, indeed, they take Muratori's armour for their national costume, thinking that "prevention is better than cure."

PARIS, November, 1866.

M. Benjamin Auger has shown me an apparatus which he has invented and used to compress the femoral artery in a case of popliteal aneurism, to be seen at present in M. Velpeau's wards at the "Charité."

In 1861, M. Auger was attached to the service in the quality of residing student, and was ordered by the Professor to apply digital compression upon the femoral artery of the same patient who again presents himself for treatment. Five years ago, instrumental and digital applications furnished unsatisfactory results, notwitstanding the utmost readiness displayed by the sick man in yielding to the means employed. He aided in compressing the vessel, by relieving those appointed to this office, and acquired considerable skill in the management of the varied mechanical methods which were called into play. When instruments were tried in this case, their successful application was always very difficult, and although there were good will on his part and a great desire to be cured, still it was found impossible to leave the subject of these remarks alone, and to entrust the case to his own supervision, as the pulsation would recommence almost immediately in the tumour. At that period, M. Auger was struck with the defects in the apparatus which had been applied, and was about to make an experiment with an ingenious modification of some of the then existing compressors. Circumstances, however, proved adverse to this plan, and it is only lately, when the same man returned to the hospital complaining of the disease which had been treated in 1861, that the instrument I will endeavour to describe was manufactured.—On the patient's being discharged, some years since, the aneurism was thought to be cured. On admission for the second time, he

directed attention to a large pulsatile tumour, situated in the upper half of the left popliteal space. This would appear to indicate, from a knowledge of the previous history, that the artery had undergone dilatation in a point higher up than the spot which had been formerly diseased. M. Broca's apparatus was put on, but compression was with difficulty established, notwithstanding the docility of the sufferer, and the experience of the aids to whom this mission was confided. M. Auger is prosector to the Hospitals of Paris, and in his leisure hours he had frequently applied, upon corpses, an instrument which in theory appeared to work satisfactorily. With the consent of M. Velpeau, he determined to try its merits practically in the case under observation. The apparatus is composed of the following parts: A strong wire trough made so as to mould itself around the limb, and lined with thick cushions, in order to ensure a better fit on application, constitutes the basis of the new compressor. A gutta-percha cast of the thigh was taken, and served as a guide in the construction of this sheath, which goes around three sides of the limb, encircling it completely, save in the anterior aspect. Next, there is a wooden wedge of a volume equal to that of the forearm, and which is also well padded to prevent excoriation. This wedge is placed at the junction of the posterior and internal sides of the trough, which it separates from the limb. It is destined to maintain the femoral artery in the anterior portion of the thigh, not permitting it to fly from the pressure it is indispensable to bring to bear upon the vessel, and offering a solid resting point for the adductor muscles which, participating in the compression thrown upon the vascular element, like it, would have a tendency to escape, thus rendering useless the attempts made to arrest the disorder. It is needless to add, that these troughs can serve for the leg, etc., and that the size of the wedge must, necessarily, vary according to circumstances.

The above form, as it were, the groundwork of the apparatus, which is completed by metallic arches, through which pass rods, terminated by the cushions, which press upon the parts. These arches are connected with the trough, and span the anterior aspect of the limb, which, it will be remembered, remains uncovered. There are two or more of these arches, as it may be required, to compress the vessel in more than one point, and they move up and down the member, thus enabling the cushions to be applied in different localities. A word now about these cushions, which form the most important part of the instrument, as will be seen.

Supposing a line to be drawn from the centre of the inguinal region to the knee, in such a manner as to work out the course of the artery, this line will be perpendicular, or nearly so, to the

arches which, it is known, span like bridges the anterior aspect of the thigh. At the point where this imaginary line meets these bridges, the arches present a small hole permitting a rod to play backwards and forwards, to and from the limb. These rods are terminated by a pad, which is placed over the vessel and pressed down as much as is deemed expedient. The degree of pressure once regulated, the cushions are kept in place by a screw, which runs into the arch and renders the rod immovable. Sufficient strength is given to the different parts entering into the composition of M. Auger's apparatus, to allow considerable pressure to be employed. M. A. intends to generalize the application of this instrument, and thinks it worthy of a trial in other regions, such as the forearm, etc.

In the case at present at the Charity Hospital, a few seconds suffice for the fixation of these compressors, which are two in number, so as to permit their coming into use alternately, and lessen the danger of gangrene, which is apt to result from prolonged action upon the tissues. Indeed, the apparatus is so simple, that the patient himself, from time to time, attends to changing the situation of the effort made to obliterate the vessel. One of the cushions is placed in a position permitting its action upon the artery to be exerted at the summit of Scarpa's triangle, the other rests upon the horizontal branch of the pubis. M. Auger insists that the cushions must be small, so as to be as similar as possible to the finger ends employed in digital compression, for the artery is then readily brought under command without much injury to the adjacent tissues, and the vein is gifted with a better opportunity for avoiding the obliteration practised upon the diseased vessel. The man has not yet been discharged, but from the rapid diminution of the tumour observed six days after the application of the apparatus, the prospect of a speedy cure may be reasonably entertained.

I have seen lately, through the kindness of M. Mathieu, the laryngeal speculum, invented by Dr. De Labordette of Lisieux.

This instrument appears to be a happy modification of the ordinary laryngoscope which it simplifies greatly. It bears a resemblance to M. Cusco's vaginal speculum, and is composed of a lower and upper valve. This last plays upon the lower half, from which it can be removed to the distance deemed most convenient for exploration. When introduced into the throat, the superior valve becomes posterior. A peculiarity in its construction is its following a gradual curve, allowing this portion to be moulded upon the soft palate, and to descend into the pharynx. The anterior valve does not go beyond the root of the tongue, depresses this organ, and raises the epiglottis. The speculum, to be advantageously

used, must be introduced as far as possible. When the instrument is in its place, the play of the valves, which is regulated by a handle held by the operator, lowers the tongue and maintains it in a stationary position. The posterior valve presents at its extremity a small, highly polished mirror, adapted to its inner surface. The upper orifice of the larynx is reflected upon this mirror, and the posterior portion of the epiglottis, the aryteno-epoglottidean folds, the laryngeal ventricle, as well as the inferior vocal chords, and the upper part of the trachea are distinctly visible. This exploration can be made in broad day-light, the only condition necessary being to seat the patient near an aperture. At night, an ordinary lamp or candle suffices. Before introducing the speculum, M. De Labordette recommends heating it over the flame of alcohol, or by immersion in warm water, as the chilly metallic surface produces a disagreeable sensation, and the breath tarnishes the mirror. The next step is to procure introduction very deeply. This part of the operation is easily effected without distress to the person examined. The instrument is closed when it enters the mouth. The valves are then made to separate, and the dilatation of the speculum is readily obtained. The laryngoscope is held with one hand, whilst the other applies caustics, etc., to those spots which appear diseased to the eye. In a descriptive pamphlet, Dr. De Labordette has published, he says that the play of the valves, in order to dilate the speculum, must only be attempted when the anterior segment has reached the base of the tongue, and that the patient must be told to breathe freely; otherwise, spasmodic contractions of the pharynx supervenes, and in consequence of this, exploration becomes very difficult, nay impossible, owing to the great quantity of mucus secreted. From the rather bulky appearance ot the apparatus, one would be inclined to think its introduction capable of occasioning distress or annoyance. This is not the case, however, and the instances in which a slight pain is noticed, are few in comparison with the number of times when the use of the speculum creates no unpleasant sensation. If it becomes necessary to inspect the larynx of a child, the instrument must immediately be made to enter to a considerable distance, and it should be kept in place, as the uncomfortable feeling soon yields before the reëstablishment of the respiratory functions. The absence of nausea is attributed to the size of the laryngoscope, which by uniform pressure over a large surface does not worry the palate. The tongue is completely mastered by the anterior valve, and its restlessness is kept in check. An advantage which M. De Labordette claims for his speculum, is that the buccal parietes are shielded from harm by the tubular construction of his instrument, this disposition permitting the use of

medicinal agents with no more apprehension than the cauterization of the *os uteri* excites. Besides, it is possible to touch a very limited portion of the mucous membrane, avoiding thus easily the danger which was hitherto to be guarded against from action upon too extensive a surface. From this circumstance, as well as from the great facility for exploring the larynx, and even portions of the trachea, M. De Labordette was induced to try his invention in cases of laryngitis with production of false membranes. Five times, the introduction of the speculum allowed the application of caustics to be made with remarkable ease and accuracy, and the result was constantly favourable. It would be premature to pronounce upon the merits of this instrument from the small number of observations its inventor presents; still one cannot help being struck with the simplicity of M. De Labordette's speculum, which is so great that the process of introduction offers no difficulty, whilst permitting a very minute examination of the laryngeal parietes. This same laryngoscope has been employed lately to establish breathing in children who were born in a state of apparent suffocation.

The opening meeting of the School of Medicine in this City, was held in the early part of the present month. These occasions are, generally speaking, a disgrace to the Faculty, and this year, the unruly and turbulent manifestations are more than usually to be regretted. Cries of "Vive le Matérialisme!" "Vive le Communisme!" "A bas Dupanloup!" were raised in the amphitheatre. This last shout was in allusion to the illustrious Bishop of Orleans. In a recent pastoral letter, the prelate stigmatized the language and conduct of the Medical and law Students who left Paris last year to attend the "Student's Congress" at Liége. At this Congress, it will be remembered, doctrines subversive of morality and the principles of social order were promulgated, and some of the delegates from the Paris Schools, were on their return to France, prosecuted by the Government, on this double charge. The allocution of the Dean, M. Wurtz, was several times interrupted by the clamour of the audience, and Professor Jarjaray, who read a biographical sketch of Malgaigne, met with a similar welcome. It is saddening to witness the spirit animating a portion of the School, and endeavouring to find vent on every occasion. To prevent a renewal of the scene enacted on the opening day, I learn it has been decided to suppress in future the public ceremony of inaugurating the Scholastic year. Of late, the Faculty has met with some severe losses, from the deaths of several eminent Professors, and the resignation of Messrs. Andral, Cruveilhier, Piorry, and Trousseau. Malgaigne and Nathalis Guillot are no more, a cloud rests

upon the declining days of Jobert (De Lamballe,) and the health of Professor Grissolle does not permit this gentleman to continue his clinical teaching. The School may therefore be said to require a new organization, and already the names of several candidates figure among the aspirants for each Chair. It may not be amiss to give an insight into the manner of filling vacant posts, adopted in the Medical Department of the University. The supplementary Professors, or "professeurs agrégés," as they are termed, are nominated by competitory examinations. Their time of active service is limited to a certain number of years, at the expiration of which they become "agrégés libres." It is from the ranks of this body, that the titulary Professors are selected and named by the Emperor. Formerly, a Professorship was to be obtained only after a trial of comparative merit. M. Monneret, the Professor of Internal Pathology, was the last one thus elected. Professor Jobert (De Lamballe) has been assigned a pension, and placed in retreat on account of his unfortunate mental condition. Messrs. Andral, Cruveilhier and Trousseau, retain honorary titles. The last named is at present suffering from a disease of the digestive organs, and no hope is entertained of his restoral to health. The death of Mathalis Guillot, and the resignation of M. Piorry, leave the Chairs of Clinical Medicine unoccupied, at the Charity Hospital and Hôtel Dieu. M. Béhier will probably be called upon to fill the former position, and M. Monneret has consented to go to the latter Institution. M. Broca is spoken of as being destined to replace Jobert (De Lamballe.)

In a previous letter I alluded to the successful treatment of two cases of delirium tremens, which had come under my observation, by tincture of digitalis in large doses. Since then, M. Bindé, a former pupil of M. Velpeau, has written an interesting monograph upon the same subject, and I subjoin a brief analysis of the thesis. M. Bindé gives statistical tables showing the mortality which obtains in the varied therapeutical means employed. Thus he quotes Dr. Ware, who registered six deaths out of fifteen cases treated by opium. Dr. Dungliston furnishes the proportion of one death for eighty-four observations. His sole treatment consisted in the exhibition of emetic and purgative agents, and the only patient who died was a man who had been given opium before consulting M. Dungliston. In the space of three years, Drs. Peddie and Laycock attended to four hundred and three cases of delirium tremens at the Edinburgh Royal Infirmary. Opium was employed, and showed twenty-five per cent. mortality. Per contra, Dr. Laycock, in another series composed of twenty-eight persons, made use of laxative means, coupled with emetics, and lost only one case.—

Here again, opium had been tried before admission into hospital.—At the Glasgow Infirmary, brandy and opium were administered thirty-five times, and the result was fatal in seventeen instances. Dr. William Pirrie, comparing the above figures with statistics of his own, concludes that in delirium tremens, the mortality is one-eighth when a stimulating treatment is adopted, and one-fourth when stimulants and preparations of opium are given together.

Expectation, with occasional purgatives, establishes the most favourable record, as here no deaths have been observed. Dr. Jones treated sixty-seven individuals by tincture of digitalis, and lost but one patient. To this list, M. Bindé adds recent observations, increasing the number to one hundred and four cases, in which only one death is noted, and the post-mortem examination revealed the existence of a cerebral tumour. The conclusions to be drawn from the above numerical arguments are, that in delirium tremens opium is prejudicial—that the stimulating plan, whether employed alone, or together with opium, though offering less danger than the preceding, yet should be rejected—that in the great majority of cases, nature does not suffice to work the cure, and that digitalis is the only active agent which appears productive of benefit. As to the dose to be exhibited, Dr. Jones recommends a half ounce of the tincture, in a little water. It is often necessary to administer the same quantity a second time, at the expiration of four hours. Occasionally a third dose is required. When this is the case, two drachms generally suffice. The same gentleman blames half drachm doses, whose effect, he says, is to render the pulse intermittent, whilst larger proportions of the remedy are not followed by this accident. To account for the action of digitalis, M. Bindé assumes delirium tremens to consist in a congestive state, due to the weakness of the heart's contraction, and to the obstacles which the altered vascular parietes present to the circulation of the blood. When digitalis is administered, this congestion disappears, for the heart returns to its usual condition, as the pulse amply testifies. This increase in the strength of the contractile power drives the blood through its channels, removing rapidly every trace of that stagnation which acted upon the brain. Digitalis can hardly be considered as having a direct influence upon the heart, but as the results noticed in the action of this organ, following the administration of the remedy, are quite similar to those which are obtained by moderately exciting the cardiac branches of the pneumogastric nerve, it seems reasonable to believe, that the parts which furnish the origin of the eighth pair, fall under the sway of the agent employed. T. L.

Dr. Henry Bennett on the Curability of Consumption.—Recent Researches into the Pathology of Tubercle.—Mr. Lockhart Clarke's Investigations of the State of the Spinal Cord in Tetanus.—The new Treatment of Epilepsy, &c.

London, December, 1866.

The near approach of Christmas reminds me that it is just a year since the Richmond Medical Journal began its career, and I take advantage of the occasion, to congratulate both Editors and readers, on the remarkable success it has already attained, and to express my hearty wishes that its progress, during the ensuing year, may be as rapid as it has been in the past.

A valuable contribution to medical literature, has lately been made by Dr. Henry Bennett, on the curability of consumption. His remarks are all the more interesting, because they come from one who, himself, is a sufferer from the disease. Seven years ago, Dr. Bennett was in extensive practice in London as a Physician, and had made himself a name by his investigations and writings on obstetric medicine. His position here, however, he was compelled to throw up from ill health, and he went, as he says, a consumptive invalid to the South of France to die. But when released from the cares and labours of professional life, and placed under most favourable hygienic conditions in his new home in Mentone, he gradually improved in health, and now is able to give us the results of a large experience there acquired, in the treatment and prognosis of phthisis.

He seems to have regarded phthisis from the first, not as a disease per se, but, as he expresses it, merely a symptom grafted upon a general decay, just like a fungus on an unhealthy tree; and, leaving the disease out of consideration, he has made it his object to combat with the decay as the real source of the disease, just as the gardner might attend to manuring and strengthening the tree to destroy its parasites. The chief arguments which he adduces in favour of this doctrine, are: the deleterious effects of privation, impure air and other deteriorating influences in producing and accelerating tubercular disease; and the beneficial results of treatment, when directed to sustaining the vital energies of the patient. He instances the natives of Labrador, who, in their rude, imperfect huts, exposed to many hardships, are almost unacquainted with the disease; but when they come down the St. Lawrence, and are crowded in the badly ventilated dwellings at the fisheries, yet living in comparative luxury, fall victims in a year or two to phthisis under these enervating influences.

Now, it would seem, if the view were correct that phthisis is merely a symptom of decay, that it ought to occur much more frequently in the aged. As a matter of fact, however, it is rare to find it in an incipient, or even active condition in them, but on the contrary, its active ravages are mainly confined to persons about the age of puberty and of middle life.

Recent investigations, too, seem to indicate, at least, the great probability that two or more distinct diseases, have been included under the common designation phthisis—that grey or miliary tubercle is distinct from common yellow or scrofulous tubercle, and that both of these are to be distinguished from certain forms of chronic inflammatory degeneration. Whatever may be said of the yellow tubercle, the first kind at least—the miliary tubercle or "gray granulation" appears to possess distinctive and specific characters, which give it the right to be considered as a separate disease; for experiments have been recently made, which appear conclusively to prove that tubercle of this kind, from a phthisical patient may by inoculation be made to communicate the disease to a healthy animal.

M. Villemin reports in the *Gazette Hebdomadaire*, that he has, again and again, succeeded in inoculating rabbits with tubercle, and that the tubercular matter thus produced in one rabbit, can be, in like manner, transmitted to another. Mr. Simon has lately made a similar series of experiments at St. Thomas's Hospital, with the following results: Of thirteen rabbits inoculated with recent tubercle (taken from twelve to twenty hours after the death of the patient,) five were found to have deposits in the lungs, five months afterwards, and these deposits, when examined, were found to have all the appearances, general and microscopical, of tubercle. Another series has been inoculated from this tuberculous deposit, and I hope to be able to give you the result of this farther experiment at a future period. The rabbits were not subjected to any deteriorating influences.

While, therefore, we cannot allow the entire truth of Dr. Bennett's theory, that phthisis is a mere symptom, since we have good evidence that, at all events, in some cases, it is a specific disease; yet we may go with him to the extent of believing that depressing influences greatly favour the occurrence and progress of the disease, and as we know of no specific remedies for tubercle, our treatment must mainly be directed to combatting these influences, and thus will entirely coincide with his own. In fact, in phthisis, as in other diseases of an adynamic type, the main indication is to support the "vital energy" of the patient. To this end, we do not recommend the emigration of phthisical patients to relaxing or tropical climates, where the energies are exhausted, and where the mortality from this disease is proved to be larger than in an unequal climate like our own; but we rather send them to warm but bracing localities, of which Mentone, in the South of France, seems to be an admirable specimen. Though the place is full of consumptive invalids, the mortality from pulmonary phthisis, there stands at 1 in 55, while in London and Paris it is 1 in 8. The importance of hygiene in this disease, cannot be over estimated, and perhaps the most important thing of all, is good equable ventilation, which is, in our climate, difficult to obtain, and which deserves much more attention than it has hitherto received. In many cases, pure air is the food par excellence, upon which the patient can exist, and to compel or allow him to breathe a close atmosphere, loaded with effete organic impurities, when the quantity of active lung tissue is reduced to a minimum, is a scientific crime equal to manslaughter.

The value of different kinds of food, is an interesting subject, upon which I must not be led away here, farther than to give Dr. Bennett's opinion of fats. Cod-liver oil he looks on as undoubtedly only a readily digestible oil. Its strength-giving properties have been abundantly proved, while the number of cases of phthisis cured or relieved by treatment with this medicine, is far larger than of those treated by any other remedy. It is remarked also, in the Intellectual Observer, (for July of this year) that the Tyrolese chamois hunters prefer to take beef fat, rather than meat, with them, when exposed to lengthened fatigue in the mountains; and recent experiments tend to prove that "the production of muscular power is not so much to be attributed to the assimilation of nitrogenous food, as to the slow combustion of carbonaceous food." This is a very important matter, and deserving of farther investigations, since it bears not only upon phthisis, but also upon various other diseases accompanied by low vitality.

Dr. Bennett makes all his consumptive patients, if they are strong enough, use a sponge both daily, at a temperature of about 65° F., and finds it of immense benefit. He says, "I myself, derived the greatest possible comfort and benefit from cold sponging in Summer, in the open air, on the banks of a Scotch loch, the waters of which were at 60°; and that when I was very ill, pulse 100 and skin hot and feverish. This gave me a confidence I have never lost, and which I have never had reason to repent."

I believe that he is undoubtedly right, when he remarks, that "much may be done towards arresting the progress of this decay, and even towards effecting a cure, by the combined influence of hygiene, of climate, and of rational medical treatment," and it is pleasing to find him able to add, "I am now surrounded by a little tribe of friends and patients, whose lives have been saved, like my own, by the steady application of these principles."

An opportunity was afforded me a few days ago, of examining the preparations of Mr. Lockhart Clarke, showing the morbid appearances in the spinal cord in tetanus. Mr. Lockhart Clarke has been long known as a most able, laborious and successful investigator into the minute anatomy and pathology of the cord—a branch of study which, from its difficulty, and the little apparent prospect of commensurate results, has deterred most scientific men. This makes Mr. Clarke's studies all the more valuable, and especially in regard to tetanus, since anything which may serve to elucidate the pathology of such a frightful disease, must be of great interest. He first hardens the cord, by immersing it in a solution of chromic acid (about 1 part to 300 of water,) dividing the cord across at about every two inches, in order that the liquid may thoroughly permeate the tissue. On examining their sections under a low power of the microscope (a one or two inch lens,) the central gray matter is seen to present patches of perfect transparency, occurring at irregular intervals along the cord. This transparent appearance is seen by a higher power, to be due to a liquefaction of the nerve matter; islands of nerve tissue in a state of fatty degeneration, being sometimes

visible, and the disease apparently commencing in the " white substance of Schwann."

One would expect that if acute fatty degeneration exists as a morbid condition in the spinal cord, a chronic form of fatty degeneration should be found in some other nervous diseases; and this Mr. Lockhart Clarke tells me he has found in one case of cystic disease of the brain, and in the posterior columns of the cord in a case of locomotor ataxy.

Removal of the clitoris, clitorotomy, clitoridotomy, or clitoridectomy, as it is variously called, was very freely discussed in its medical and moral bearings, last week, at the meeting of the Obstetrical Society.— The operation was brought before the notice of the Profession, some twelve months ago, by Mr. Baker Brown, for the cure of epilepsy, hysteria and various other female disorders, which he considered to be almost universally due to a vicious habit, which would be cured by this operation. I need hardly say that it has met with almost general opprobrium; firstly, for the reason that the cause assigned is not believed to be the usual one in these disorders, and next, because the result of the treatment, has not, except in Mr. Brown's opinion been at all satisfactory. It is, perhaps true, that the vice referred to is not an infrequent cause of disease, and that such cases have been, as a rule, too much overlooked by the medical Profession; but to assume that it is the cause of every case of epilepsy or hysteria, and to perform an operation on that assumption, seems to be not at all justified by facts, and to be an unwarrantable insult to patients. J. W. H.

Editors of the Richmond Medical Journal:

The very interesting, as well as instructive paper on ovariotomy, by Prof. Chisolm, in the November number of the JOURNAL, appears to me to call for a single criticism, which, however, is offered in no captious spirit, but as a matter of justice to the claims of American Surgery.

Prof. Chisolm's paper is devoted almost exclusively to a description of the operations of Spencer Wells and Baker Brown, and to these gentlemen in connection with Clery, of Manchester, and Keith, of Edinburg, he gives the credit for the introduction and establishment of ovariotomy, "as a safe and justifiable operation." He here forgets or overlooks the fact that ovariotomy is preëminently an American operation; that it was first performed by an American Surgeon, (Dr. McDowell, of Ky., in 1809,) and that his cases (eight out of thirteen successful) first proved its justifiability. The claim that is constantly put forth by British Surgeons, that the operation is of British origin, is based entirely upon the suggestion made by Hunter in 1762, of the possible practicability of the operation, but this suggestion was never carried into practice in Great Britain, till in the United States the operation had been brought prominently to the notice of the Profession.

It is true we are indebted to English Surgeons for most of the recent improvements in the operative procedure, but it is equally true that it is only within the last six or eight years that ovariotomy has been frequently resorted to in England; long after it had been fully tested and approved by the success of American Surgeons.

The first attempted British operation (abandoned, by-the-way, on account of an error in diagnosis) was by Lizars, in 1823, and up to the date of McDowell's death in 1830, and for six years subsequently, only five attempts at ovariotomy had been made in all of Great Britain, and of these, three only were completed—though meantime, in this country, it had been frequently and successfully performed. Clay performed his first operation in 1842; Mr. Baker Brown in 1852; and Spencer Wells in 1857, and it is only within four years past that Keith's brilliant success has established his claim as one of the ablest of Surgeons in this specialty.

Surely the labours of McDowell, the two Atlees, Peaslee, Dunlap, Kimball, and other American operators are entitled to *some* recognition, and Prof. Chisolm is positively in error when he states, that up to the time of the gentlemen whom he specifies by name as above, "ovarian cysts were not considered curable," and that "their prognosis was invariably bad and their termination uniformly fatal."

E. S. Dunster, M. D.

New York, December, 1866.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

Clinical Notes on Uterine Surgery—with Special Reference to the Management of the Sterile Condition. By J. Marion Sims, A. B., M. D., late Surgeon of the Woman's Hospital, New York; Fellow N. Y. Acad. Med.; New York Path. Soc.; New York His. Soc.; New York State Med. Soc.; Royal Med. and Chirurg. Soc., London; Hon. Mem. German Soc., Phys. and Nat., Paris; Hon. Fellow Imp. Acad. Med. Belgium; Knight Legion Honour, etc. New York. W. Wood & Co., 61 Walker Street. 1866.

It is just one year since this Work was written. It has been reviewed carefully, both in Europe and America. Criticism has varied materially, and necessarily so, for the Work bears evidence of strong individuality. The exceedingly practical, useful and interesting character of the book none deny; it is distinctly admitted. There are chapters, in regard to which the author has, by many, been not only satirized, but abused, for having transcended

the limits of propriety, both in his Professional relations with his patients, and in the subsequent discussion of the treatment adopted. There must be difference of judgment, in regard to the obstetric surgeon who, when treating vaginismus or hyperæsthesia of the vagina in the married female, repeatedly subjects her to the anæsthetic influences of chloroform, to render practicable what was before unendurable; and in (what the author terms) artificial fertilization, using throughout a long series of experiments, the syringe, for lodging the seminal fluid within the cavity of the uterus; and in instituting repeated examinations, after intercourse of patients, for testing the retentive capability of the vagina; and in withdrawing, by syringe, after intercourse, the seminal fluid from the vagina, for the purpose of determining the quantities respectively retained and lost, etc. These and other similarly repulsive details, are carefully presented, and, as may have been anticipated, the author has been visited, by many, with all the satire and invective of which language is capable. It should, at least, be borne in mind, that there is in all of these examinations, an evident absence of all prurient association, and that all of the experiments were conducted, with the enthusiasm of the philosopher willing to bear reproof, for the cause and discovery of truth. It may be said, with correctness perhaps, that, after a dispassionate review of the subject, the Profession is willing to excuse, but not to justify the author, in his investigation and publication of the details specified.

A favourite view of Dr. Sims, is that dysmenorrhœa is due solely to physical obstruction, and that pain and difficulties attributed to rheumatic and other diatheses should be ascribed only to the source indicated by him.

It is true that a large proportion of cases of dysmenorrhœa should be ascribed to physical impediments, but that this etiology is absolute, the majority of Practitioners will deny.

Whatever may be the additional objections made in regard to the views and practice of the author, it can not be denied, that this Work is one of the most useful, instructive and entertaining which has been published within the past year. It can be purchased safely, without the least risk of subsequent regret.

A Classified Priced Catalogue of Medical Books, Surgical Instruments, Apparatus, etc. January, 1867. Price, 25 cents. Published by the Editor of Philadelphia Medical and Surgical Reporter, 115 South Seventh Street, Philadelphia, Penn.

All Physicians have regretted, that no one had undertaken the trouble of presenting, in a concise and useful form, the exact titles

of the most approved contemporaneous Works, in the various branches of Medicine, with the names of the authors and the locality of the Publishers. This want has been supplied, with entire success, by the Editor of the Philadelphia Reporter, who in addition to the evident qualifications for the task, has enjoyed the experience and judgment derived from editing, through a series of critical and trying years, one of the best Journals before the Medical Public. He has also just published the Physician's Pocket Record, (price $1.50,) which is claimed to be superior to the many now in use, and which, by those who have seen it, has been gratifyingly commended and approved. A description of the Record is given in the Pamphlet received; it is, undoubtedly, an admirable arrangement for meeting the demands for miscellaneous memoranda so necessary to the busy Practitioner.

Clinical Observations on Functional Nervous Affections.—By C. Handfield Jones, M. B., F. R. C. P., etc. Philadelphia. Henry C. Lea. 1867. From the Publishers, (through Woodhouse & Parham, Richmond, Va.)

This is one of the most instructive, practical and entertaining Works, recently submitted to the Profession. It has been published as a serial in the American Medical News and Library during the past year, and is now for sale; the volume being acceptably and neatly bound. The author, while treating affections and diseases confessedly obscure and intractable, has abandoned the theoretical and speculative method, which has, for so many years, been unprofitable and unsatisfactory to the Profession. Each condition is analyzed and the treatment recommended, in a manner that entitles the author to the entire confidence and gratitude of the reader.—His remarks on the relations of opium to the vaso-motor nerves, and, consequently, to the force, volume and rapidity of the circulation, are particular interesting and instructive. The whole Work is thoroughly satisfactory, and especially as it efficiently treats of subjects that are obscure and generally avoided.

MISCELLANEOUS.

"Non Omnes Eadem mirantur Ament que."—Hor.

The Course of a Dose of Alcohol through the System.—It passes through the stomach, and in going through is to a small extent oxidised. The greater part escapes and enters the circula-

tion, acting there on the oxygen, fibrin, albumen and blood globules to a small degree. In a few minutes a part passes, still being oxidised, into every secretion, as, for example, into the lungs, kidneys, liver; whilst another part passes into every other texture; and on each substance in each texture the alcohol produces its chemical action, still continually undergoing oxidation, so that in a few hours, one part has entirely escaped, and another part has been entirely oxidised in the blood and textures. What has the alcohol during this time done? It has acted chemically on oxygen and on the textures with which it has been in contact. The first action has little to do with the strength of the alcohol. Weak or strong, it combines with oxygen; increased oxidation, increased circulation, increased secretion, increased effusion of lymph, altered nutrition result.—The second action depends on the strength of the alcohol. Strong alcohol acts chemically on albumen, fibrin, cellular tissue, &c. It has a powerful attraction for water, and it shrivels up cellular tissue, hardens fibrin and precipitates albumen by its chemical properties.

To no organs of the body is more alcohol taken than to the kidneys and liver, and in no organs are the mechanical results of its chemical actions more manifest and the consequences of the altered structure more apparent; and the increased oxidation, the increased flow of blood, the altered nutrition are identical in kind with the first actions of inflammation; and when the series of actions are repeated over and over again for years, the result is the same as might have been produced in a shorter time by an ordinary inflammation, when no alcohol whatever had been taken.

Dr. Christison states that three-fourths of all the cases of Bright's disease which he saw were produced by the habitual long continued abuse of drink. Very great occasional excess did not act so strongly as long-continued smaller excess.

No doubt the alcohol acts on the vessels and ducts; but not so powerfully as on the interstitial texture. H. B. J.—*Med. Times and Gazette.*

On the Preservation of Milk.—As by far the greater portion of milk used in cities and large towns is obtained from the country, any means of preventing the putrescent changes to which it is liable during hot weather are especially valuable.

Premising that the agent used is sulphite of soda, let me state that some years ago I was much interested in the employment of sulphurous acid and the sulphites in processes of sugar manufacture. In the course of my investigations I desired to obtain a specimen of cane juice from the West Indies unchanged, and easily accomplished the desideratum by causing a specimen of juice to be

impregnated with sulphurous acid. It bore the voyage from Barbadoes to Cork unchanged, as best evidenced by the fact that the normal weight of sugar was extracted from it. So strong an evidence in favour of the anti-fermentive qualities of sulphurous acid was impressive. Therefore, when lately consulted by a London purveyor of milk relative to the troubles he experienced from fermentive and putrescent causes, the experiment with sugar-cane juice naturally came to mind. For many reasons, some of which will be obvious to your readers, uncombined sulphurous acid would, in the case of milk, have been ineligible. Sulphite of lime was first used, but with indifferent success. Sulphite of soda has answered perfectly. Necessarily Winter is not so favourable a time as Summer for establishing a crucial test. In the opinion, however, of the milk purveyor, who has tried the experiment, the results are conclusive. Judging from previous and collaterial experience, I am induced to believe, that one teaspoonful of saturated aqueous solution of sulphite of soda added to every gallon of milk will preserve the latter from change, for many weeks at least, in the hottest days of Summer.

My medical brethren need not be reminded that sulphite of soda in the proportions noted is quite harmless, and indeed imperceptible. It is not new to therapeutics as a valuable agent in pyrosis and certain forms of dyspepsia, though in these cases I find the sulphite of lime to present advantages. Collaterally I may state my belief that the sulphites of soda and of lime are amongst the best, if not the very best, of all disinfectants. I would suggest their use in the cattle disease, not merely as external disinfectants, but therapeutically administered to affected animals. J. S.—*Lancet.*

Use and Abuse of Poultices.—The British Medical Journal quotes some excellent remarks of Dr. Richardson, from his lectures delivered at the College of Physicians, on the use and abuse of poultices.

The application of moist heat in the form of poultices to suppurating parts, requires, he thinks, remodelling, in order that it may be placed on a true scientific basis. The common recommendation, "you must put on a poultice," is too often an easy way of doing something about which we were not quite sure, and concerning which it were too much trouble to think long. Mischief is very often done by a poultice, which might well be avoided.

When a part is disposed to suppurate, the first step in the series of changes is an increased flow of blood through the capillary surface, followed by obstruction, and thereupon by an excess of

sensible heat derived from the friction that is set up. Then follows transudation of liquor sanguinis into the connective tissues, and its transformation, under the influence of heat, into what is called purulent fluid. When to the part in this state we apply moist heat, we quicken suppuration, mainly by upholding the temperature; at the same time we secure the transference of water from the moist surface into the inflamed part, by which tension of tissues is produced, and in the end yielding of tissue at the weakest point.

When the suppurating surface is circumscribed, the rapid induction of the process may be attended with little injury; but when the surface is large, and when the exuded fluid is thrown into loose structures where it can burrow readily, the practice can not be good to the extent of the mischief. Hence in the treatment of carbuncle and phlegmonous erysipelas, it can not be sound practice in the early stage to apply moist heat. Experience as well as principle warrants this conclusion. In cases of carbuncle especially, Dr. Richardson has of late avoided the application of moist heat in the early stages with good results.

But when in the course of local disease, suppuration is actively established and is naturally circumscribed; when the increased temperature of the parts has fallen to or below the natural temperature—then the value of moist heat comes on wilh full force. Then the tension which is exerted determines the escape of fluid at the weakest point of the surrounding tissue, and when the fluid escapes, or is liberated by the knife, the escape for a long period is aided by the application of moist heat.

The continued application of moist heat for a long time after the escape of purulent fluid is again indifferent practice. It sustains discharge; it sets up unhealthy decomposition of fluids; it produces a thickened, soddened condition of skin, most favourable to the production of sinus; and it retards recovery. When a surface is freely open and suppurating, dry and not moist heat is the remedy. We are in want in these cases of a simple invention; we require something which we can apply as readily as a poultice, which shall keep up the temperature of the part, and at the same time take up moisture, and gently desiccate, without injuring the tissues.—*Canada Medical Journal.*

Liquor Potassæ as a Solvent for Gum Resins.—Solutions of gum resins in liquor potassæ recommend themselves for their elegance and economy, while they are generally very effective. For instance, a dilute solution of ammoniacum in water is perfectly clear, whereas a tincture produces an opaque mixture. The alkaline solution of aloes, catechu, and kino are very cheap and elegant

coloring matters, a few drops giving a deep tint to half a pint of water. The quantity of liquor potassæ best adapted for each gum resin will be found to be as follows:

Aloes	1 part to	15	liq. potassæ
Ammoniacum	1 "	4	"
Assafœtida	1 "	10	"
Catechu	1 "	10	"
Guaiacum	1 "	7	"
Opium	1 "	10	"

[*Year Book of Pharmacy.*

Marine Glue.—Dissolve three parts of India-rubber in thirty-four parts of coal-tar naptha—aiding the solution with heat and agitation; add to it sixty-four parts of powdered shellac, which must be heated in the mixture, till the whole is dissolved. While the mixture is hot it is poured upon metal plates in sheets like leather. When required for use, it is heated in a pot, till soft, and then applied with a brush to the surface to be joined. Two pieces of wood joined with this glue can scarcely be sundered.—*Drug. Cir.*

Economical Sieves.—Dr. John Parsons, of Mount Pleasant, Kan., writes to us: "For sifting dry powders, sieves may be made of stiff paper punched with needle holes, the size of the needle making the sieve fine or coarse. The sieve may be made of any size required and secured in a drum, as is the ordinary wire sieve. They are easily cleaned, cheap, and may be found useful by some practitioners."—*Medical News.*

Tests for Acids.—An exceedingly sensitive test for ascertaining the presence of acids has been suggested by Schonbein; this is simple cyanine blue, easily produced by the action of iodide of amyl on lepidine subsequently treated with soda. One part of the cyanine dissolved in 100 parts of alcohol is further diluted with twice its volume of water. The merest trace of an acid is promptly shown. Distilled water simply blown upon shows by this test the presence of carbonic acid from the lungs. The solubility of oxide of lead, which is so slight as to be unrecognised by sulphuretted hydrogen, is clearly discovered by this test. By carefully adding acid to the solution till the blue colour is destroyed, a very delicate test for the presence of bases may be procured.—*Sci. Amer.*

Treatment of Fractured Patella by the Padded Ring Method.—Dr. W. A. Gibson of St. Louis, Mo., in a contribution to the *Medical and Surgical Journal* of that City, relates his

successful treatment of a transverse fracture of the left patella, in which there was a separation of the fragments to the distance of about an inch. He measured the sound patella and had a ring made of iron (allowing for padding), which was well guarded with cotton wadding, cut in strips and wrapped round the ring, over which a bandage was applied. To each side of the ring he sewed strips of bandage. He then placed a well padded splint twenty-four inches long to the posterior aspect of the leg and thigh, which he secured by a few turns of bandage at the lower and upper ends, the bandage being loose so as not to interfere with the circulation. He kept the fragments in apposition and the ring in place by strips of bandage over the splint. At the end of thirty days, when the ring was removed, the union was *bony and complete.* The appliance gave no pain, and six weeks after the injury the patient was having a very good use of the limb.

Anatomical Preparation.—The method of employing plaster-of-Paris to fill hollow viscera is well seen in the elaborate series of dissections of the human bladder made by Dr. Pettigrew, and now added to the Hunterian museum; and his system of throwing dissections into relief by mounting them in coloured plaster, pursued in the preparations for examination, is well worthy of imitation.—The best colouring-matter is found to be ultramarine, the beautiful blue of which forms a capital contrast to the partially whitened tissues. This is added to the water to be mixed with the plaster-of-Paris, which is made sufficiently thin to flow easily around the dissection placed in a shallow pan. The plaster sets almost immediately, and may be kept in spirit for any length of time without becoming discoloured. The edge of the pan having been previously ground, a plate of glass fits closely upon it, and prevents any but insignificant evaporation.—*London Lancet.*

The Public Health: Small-Pox.—The weakly bill of the Registrar-General, announcing a generally healthy condition of London, or at least a mortality below the average, and the virtual extinction of the epidemic of cholera, is calculated to satisfy the public mind. And by the force of hygienic science, we have escaped with a mortality very strikingly less in proportion to the population than in the previous epidemics, we are apt to feel almost vain of our sanitary exploits; the more so as the experience of neighbouring countries which have not taken similar measures to resist the pestilence shows it to have been of the same virulence as in former years. In 1849, the deaths from cholera were 14,137; in 1854, not less than 10,738; in 1866, only 5,548. In other

words: of every 10,000 of the population in 1849, 62 died; in 1854, 43; in 1866, 18. This is a very satisfactory comparison.—But there is yet much sanitary duty undone amongst us. In the East districts of London the mortality on this occasion has been at the rate of 64 in 10,000. And it is too soon to feel sure that we may not have more cholera in the present epidemic. Whether or not, there is one part of the mortality just now which is discreditable in the extreme—that from small-pox. Twenty-six deaths were reported in last week's return. We earnestly direct the attention of Government to the fact, in the hope that next session we shall have a Vaccination Act which will annihilate death from small-pox—quite a practicable proceeding.—*London Lancet.*

Occupation Necessary for the Insane.—Dr. Howden, Medical Superintendent of the Royal Lunatic Asylum of Montrose, in his report of this year, gives a notable illustration of the beneficial effects for physical labour in the treatment of the patients. It is especially in those dangerous chronic cases characterized by impulsive violence so familiar to all conversant with the insane that the good results are evident. Such patients will suddenly, without pretext or warning, make a violent attack upon any one near. At first sight it might seem imprudent to entrust such persons with tools which could be easily used as damaging weapons; but in Dr. Howden's experience there is no such danger. On the contrary, these patients generally turn out to be among the steadiest and best workers. The paroxysms of violence never occur when they are at work, but only when they are idle, as on Sundays, wet days, and such occasions, when they are confined to the house in a state of inaction. The one day's rest in seven would seem from this to be a doubtful blessing to the insane.—*London Lancet.*

Dr. Horace Green, LL.D., Member of the Medical Society of the County of New York, Fellow of the N. Y. Academy of Medicine, and up to the period of its discontinuance, President Professor Emeritus of Theory and Practice of Medicine in the N. Y. Medical College, died November 29th at Sing Sing, N. Y., aged 64 years. His name was prominently connected with the subject of the introduction of the probang into the trachea, and the injection of tubercular cavities, both of which matters gave rise to an animated discussion before the Academy.

A Rule to be Observed during the Use of Ether Spray Producers.—Ether vapor, having a specific gravity of 2,586, is two and a half times heavier than atmospheric air. The vapor will

accordingly fall down upon a candle and be ignited. By raising the source of light above the place of operation, this annoying catastrophe, which has already occurred in England, will be avoided.

To Detect Sulphuric Acid in Vinegar.—A German journal publishes a neat process, which may be thus briefly stated. Into the vinegar to be tested put a small quantity of starch, boil the solution down to half its original measure, then drop into it a very minute portion of iodine. If the vinegar is pure, the usual blue tint will be shown; but if it be adulterated with sulphuric acid, no such coloration will take place, because the action of this acid upon starch converts it into glucose or grape-sugar.

Nitrate of Potash in the Cure of Intermittent Fever.—In the St. Louis Medical and Surgical Journal, Amos Sawyer, M. D., of Hillsboro', Illinois, publishes the following formula:

℞. Potassæ nitrat., gr. x.
Spr. vini gallici, vel aquæ, f. ℥ ss. M.
Take immediately.

He says:—The above prescription I have used with great success in the cure of intermittent fever, even where quinine has failed.—In my opinion, no preparation is equal to it; for it possesses antiperiodic properties completely, and may be administered when the stomach would not tolerate quinine. I deem it a specific in ague; for I have never failed to arrest the paroxysm, if uncomplicated. You will also find that the patients are less liable to relapse than in those cases cured by quinine. In the cold stage, if administered in a full dose, and the patient be placed in bed and covered with blankets, he will, in a few minutes, experience considerable heat, which will be followed by copious perspiration, and every unpleasant feeling will vanish. It is seldom the patient will experience a second attack. Where it is more agreeable to the patient, the powder may be placed on the tongue and permitted slowly to dissolve.

I shall not attempt to explain the action of this medicine on the system in the cure of ague, but will leave that to older heads than mine to determine; still, we do know that after it is taken into the stomach and becomes absorbed, it has the chemical effect of changing the dark-coloured venous blood to arterial—or at least it changes its colour. It also acts on the kidneys as a stimulant, producing diuresis as well as diaphoresis, and in this manner may rid the system of the poison that causes the ague; provided that poison is produced "by the retention of materials destined for excretion."

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

A New Test for Iodine.—M. Carey Lea, of Philadelphia, has successfully used chromates, in bringing about the starch reäction in the presence of iodine in extremely small quantities. For instance, in a solution of iodide of potassium, so diluted that the addition of nitric acid or starch produces no perceptible effect, the further addition of a *single drop* of a dilute solution of the bichromate of potash, instantly produces the well-known change of colour.

The Quartermaster General is preparing to establish in his Department a Museum of the Anatomy and Diseases of the Horse. A great variety of specimens have already been collected and prepared under the superintendence of Dr. Braley, an eminent Veterinary Surgeon.

Metallic Spectacles.—M. Foucault recently communicated to the French Academy of Sciences the fact that the sun may be viewed through a lens covered with silver leaf. The sun's disc, shorn of its beams, can thus be clearly seen. Subsequently, M. Melscius made a useful application of Foucault's discovery. Having been injured while making an experiment in the laboratory, his eyes were painfully affected by light. In this condition he had recourse to spectacles with black glasses, such as are used by engine-drivers; over these he put green glasses which answered pretty well; but on further experiment, he found the best method was to use pale-blue goggles, covered with silver or gold film, and these he recommends to all persons troubled with weak eyes.

We see it stated that since the brief campaign in which Prussia has been so triumphant, Austria has joined the Association for the relief of suffering on the battle-field. It will be remembered that before the war she was the only Christian nation of Europe which held back from joining this truly humane organization.

Castleton Medical College of Vermont has sold out its property and resigned its being.

The Fossils at Cohoes, N. Y.—Professor Marsh, of Yale College, pronounces the fossils recently found at Cohoes, N. Y., the bones of a female mastodon, of full growth, though comparatively young, and says that the animal must have existed over 10,000 years ago.

The Death of Trousseau. —A cable dispatch to the *Courrier des Etats Unis*, announces the sad intelligence of the death of this distinguished French professor. The particulars are not given.

A Remarkable Solvent.—It is now discovered, it appears, that if a piece of copper be dissolved in ammonia, a solvent will be obtained, not only for lignine, the most important principle of all woody fibre—such as cotton flax, paper, etc.—but also for substances derived from the animal kingdom, such as wool and silk. By the solution of any of these an excellent cement and water-proofer is said to be formed; and, what is equally important, if cotton fabrics be saturated with the solution of wool, they will be enabled to take the dyes—such as the lac dye and cochineal hitherto suited to woolen goods only. Hydriodide of ammonia, we may also observe, was long since discovered to be an equally remarkable solvent of the most refractory, or, at least, insoluble mineral substances. Now it is an interesting circumstance that ammonia, according to Van Helmont, and other old chemists and alchemists, was one of the requisite materials in the "formation of the alkahest," or "universal solvent," of the ancient sages.—*Exchange.*

A Powerful Microscope.—The most powerful microscope ever constructed has been made by Messrs. Powell & Lealand, and described in a paper read before the Royal Society of London, England. The power of this instrument is fully double any which had ever been constructed previously, and altogether exceeds what had before been considered the utmost attainable limit of perfection in this instrument. This powerful microscope magnifies 3000 diameters with its lowest eye-piece, and 15,000 diameters with its piece of the highest power—the latter being equivalent to magnifying no less than 1,575,000,000, or making an object appear that number of times larger than it really is! How immensely must such an instrument increase our knowledge of the lower organisms; may it not even enable us, eventually, to determine the ultimate constitution of matter? It must at least greatly aid the scientist in his researches in that direction.—*Druggists' Circular.*

White Paste which will Adhere to any Substance.—Make the following mixture: Sugar of lead, 720 grains; and alum, 720 grains; both are dissolved in water. Take $2\frac{1}{2}$ ounces of gum arabic, and dissolve in two quarts of warm water. Mix in a dish 1 pound of wheat flour with the gum water cold, till pasty in consistence. Put the dish on the fire, and pour into it the mixture of

alum and sugar of lead. Shake well, and take it off of the fire when it shows signs of ebullition. Let the whole cool, and the paste is made. If the paste is too thick, add to it some gum water, till in proper consistence.—*Journal of Applied Chemistry.*

New Graduating Diaphragm for Microscopes.—The importance of having an apparatus for regulating with precision the quantity of light thrown upon an object under view in the microscope is familiar to all working histologists. The "shutters" or diaphragms hitherto employed, though of the "adjustable" kind, have the disadvantage of forming a diamond or lozenge shaped aperture. This objection has been got rid of in the new diaphragm of Mr. Sidney B. Kincaid. This instrument consists of two brass cylinders, one within the other, and having a piece of india-rubber stretched between them. By means of a screw one may be made to revolve within the other, and thus to twist the india-rubber tube, by which means the aperture, while preserving its circular outline, becomes gradually diminished to a mere pin's point.

A Novel Method for the Production of Anatomical Plates. At a late meeting of the Vienna Academy of Science, Herr Mach suggested a curious application of photography to the purposes of anatomical education. "If," he said, "you photograph any solid body, such as a sphere, and if ere the image has been fully received you substitute for the sphere another solid body, such as a cone, the resulting photograph will be a sort of transparent picture of a sphere enclosing a cone, which, when arranged steroscopically, will seem perfectly solid and transparent." His application of this principle was thus expressed: "Place a temporal bone before the camera, and before its image has been fully formed substitute for it a cast of the auditory apparatus, and you will have a picture in which the internal ear can be seen through a transparent picture of the temporal bone. When this is arranged for the steroscope, the two parts will be seen in perfect relief."

A Test for Gilt.—Weber states that a solution of common chloride of copper will not affect articles covered with gold-leaf, but will leave a brown stain on those covered with gold-coloured alloys.

Food for Plants.—Illienkof, a Russian chemist, recommends the use of 40 parts of ground bones, 40 parts of wood-ashes, and 6 parts of newly-made lime, with water enough to thoroughly mix the whole.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

With the advent of a new year, it is natural for all men to reflect upon the Past and Future of that avocation, with which their fortunes and interests are immediately identified. In looking over the many and varied pages which constitute the History of Medicine, the Physician has ample cause for pride and satisfaction, in connection with the brilliant triumphs and gratuitously offered blessings, which he finds there recorded; in regard also to the rapid progress of his Profession, from its infant days, when with tottering and feeble steps, it groped its way, through the dark paths of superstition and persecution, to the present period, where it stands forth, as one of the chief exponents of scientific truth.

In tracing out the varied facts which characterize this interesting progress, while there is just reason for anticipating consecutive improvement and beneficent discoveries, there is, to the American student, ample cause for expecting, that to his countrymen will the science of Medicine be, in future, proportionally indebted, for its chief developments and most efficient resources.

It has been evident, to the most superficial observer, that, until the last ten years, American teaching and American Practice of Medicine has been conspicuously devoid of individuality. The most dogmatic aphorisms of the lecture-room, and the chief lessons from the library have, as a rule, been confessedly obtained from foreign authorities; indeed listeners and readers have been educated to believe, that, in Professional circulation, no currency was genuine or sterling, unless it bore a European superscription. American Medical Text Books, generally, were but European immigrants, stripped of their foreign livery, and American Journals were contemptuously discarded, unless, as ignoble parasites, they drew their very form and sustenance from a foreign source. Practitioners were all expected, if not required, to undertake trans-Atlantic voyages, in acquisition of fabulous Professional lore, and a knowledge of the topography of French Hospitals was, by the people and

Profession, frequently accepted as the Shiboleth of scientific erudition and indisputable efficiency.

These facts have been familiar even, to the most careless observer, but it has, perhaps, not yet attracted general attention, that a transition stage, in this connection, is fairly and acceptably begun. American text books are translated into varied European languages and recommended to Students, by distinguished Professors in foreign schools. American Medical Journals are censured abroad, when containing only analyses and recapitulations of European publications; indeed the demand for them is based (as is stated,) upon their exhibition of facts and teachings, obtained from domestic sources. Such Journals are now no longer sent in America to obscure Practitioners and inexperienced beginners, but owing to causes that are producing rapid transitions, owing to the pride, good judgment and independence of some, and to the imitation of others, these periodicals, springing up in all portions of America, are to be found, in common with trans-Atlantic issues, on the tables of the wisest and best in the Profession. American teachers see their opinions freely quoted abroad, while their Works very commonly induce the eulogium as well as the respect of the most critical reviewers. The records of military and civil hospitals here, are sought and read with avidity by trans-Atlantic teachers, and the facts thus obtained, are quoted with frequency and confidence.

There is now no longer a Medical Capital. Cos and Alexandria, and Rome and Florence, and Edinburgh and London, and Paris, have each temporarily and justly enjoyed their periods of preëminent reputation. Paris, last and longest on the list, has passed the era of her chief Medical greatness. Trousseau and Malgaigne are dead; so also are Dupuytren, Roux, Bichat, Laënnec, Broussais, Rostan, Louis and others, well known to science; Jobert is hopelessly insane; Andral, Piorry, Cruveilhier, Ricord, Cazzeau, Cazenave, Dubois have, from old age, or resignation, passed from the stage of didactic usefulness; while the most sanguine can not much longer expect to gather words of practical wisdom from (the former blacksmith's apprentice) the venerable Velpeau.

Velpeau, Depaul, Nélaton, Monneret, Orfila, Coste, and a few great men still remain, but who are now ready and able to

efficiently fill the many vacancies that have occurred and are daily occurring in the French Capital?

Germany has given Wünderlich, Oppolzer, Skoda and Frerichs in medicine; Hyrti and Kölliker in anatomy; Jäger, Rosas, Graëfe and Donders in ophthalmic science; Rokitansky, Virchow and Förster in pathology; Hebra in cutaneous medicine; Liebig and Lehman in chemistry; Brücke and Ludwig in physiology; Scanzoni and Chiari in obstetrics; Sigmund in venereal diseases, with many familiar names in various specialties. Germany is working diligently and efficiently, but there are names in Prussia, England and Scotland, in Ireland, Italy and America, that are as fully entitled to prominence and distinction, in connection with the respective departments of Medicine and Surgery. No writers or teachers are more familiar and respected than Langenbeck, Mühler, Büsch and Meyer, of Prussia; Watson, Fergusson, Lawrence, Stanly, Paget, West, Hicks, Erichsen, Critchett, Greenhalgh, Ramsbotham, Robert Lee, Tilt, Barnes, Baker Brown, Henry Bennett, Spencer Wells, Tyler Smith and others, in England; Collins, Churchill, Johnson, McClintock, Sir Philip Crampton, Colles, Stokes, Graves and Shackleford, of Ireland; Syme, Sir George Ballingal, Miller, Bennett, Christison and Sir James Simpson, in Scotland; Valerj, in Italy, etc. In America, there is a long list of those deservedly prominent and distinguished, but it were superfluous to mention their names in an American Journal; their writings and teachings are too familiar.

What is the deduction from these interesting facts? It is that each month is making more evident and indisputable, the great truth, that increasing facilities for mental and physical intercommunication are rapidly revolutionizing the contemporaneous history, as well as the science of Medicine. These agencies are developing centrifugal tendencies in Medical elaborations, while the centripetal influences of the past, giving prominence to single points and subordinating surrounding areas, are fast passing away.

As the result of these causes, the field of elaborate research and accurate teaching, is daily enlarging, and America, with her rapidly increasing population and scientific progress, is being yearly more fully embraced within its area. Her Practitioners and Teachers,

her schools and literature, are acquiring an increased individuality and importance, and (if profitting by the virtues, while avoiding the vices of European Medical training) there is just reason in predicting for them increased value, prominence and distinction.

With her wonderful diversity of soil and climate; with the great medical advantages, inseparable from a large and rapidly increasing population; with a characteristic disposition to make practical and immediate deductions, from well-established general principles, and to give to these deductions a material application, it is palpably evident that America will quickly demonstrate the logical result of causes now in actual operation; she will be among the first to give evidence of the fact, that the tendency of the increasing facilities for mental intercommunication is to produce an equalization of scientific advantages.

With the great power which an improved stenography is consecutively giving to the Press, medical as well as secular, the American student hears, from his watchful teacher, in a few days after they are uttered abroad, the same lessons of practical wisdom and scientific deduction. All now quickly obtain the teachings of the great, without expensively journeying to listen to them.

American hospitals are increasing in number, as well as in size, and the demonstrations in their wards, furnish those great advantages which formerly were chiefly, if not exclusively, sought across the Atlantic. The American student, finds at home, in a yearly increasing degree, those medical and surgical facilities for improvement and distinction, which his parents were compelled to seek abroad.

To analyze the causes which are inducing this manifest transition in contemporaneous medical history, in Europe and America; to trace their interesting developments, and to determine what agencies would be successful in making these developments most conducive to the progress of Medical science in America, are all subjects of most agreeable and appropriate reflection, in the incipiency of THE NEW YEAR.

CATALOGUES AND CIRCULARS.—Under this caption, the Nashville Journal for December, contains, from its senior Editor, a response

to the Review, in the Richmond Medical Journal (for November,) of the Circular of the Nashville Medical College, for the session of '66-'67. No reply is made to this article for two reasons; the first being, that it is against the declared policy of Journals to introduce personal or controversial matter into their columns, and the second, that both the Circular and the response to the review of it, evince such melancholy evidences of senility, as to render the author of these papers a subject of compassion rather than of reproof.

In dismissing the matter, it is proper to say to the friends of the Nashville School, that while the members of the Profession are willing, in a spirit of charity, to consign that memorable Circular, with its infinite blunders, ludicrous conceptions and grotesque diction, to their museum of literary curiosities, they visit with just indignation, that spirit betrayed in the Circular of not only indulging in wholesale denunciation of the policy of rival Institutions, but of charging upon distinguished authors and teachers venality in the object of their publications, and ignorance in the preparation of them.

The New Orleans Medical Record and The Memphis Medical and Surgical Monthly, have been discontinued. No period has been assigned for their republication.

NOTICES.

☞ The Editors of this Journal wish it understood, that they do not desire the subscription of any one who is unwilling to observe honourably and in good faith, the "terms" to which he subscribes. It is to them far preferable to receive five dollars, at the period of subscription, or within the limits of time specified on the cover of the Journal, than to wait for the increased amount which subsequently becomes due, and in the meanwhile to be compelled to originate means, for making cash purchases of materials, that are to be furnished, as an accommodation to the subscriber. If any one prefers paying one or two dollars additional for the accommodation extended to him, it is the result of his own choice, but it is certainly not in accordance with the preference

of the Editors. After the election has, however, been made by the subscriber, and private resources have, for his benefit, been onerously taxed, the refusal to comply with a contract, to which he has voluntarily made himself a party, is a breach of faith, entailing (in the aggregate) serious injury to those whose confidence has thus been betrayed. If, therefore, any one is unable to pay five dollars within the period specified, or is unwilling to pay subsequently the additional amount necessary for his accommodation, it is requested that he will abstain from subscribing. The editors appreciate and acknowledge the prompt payment that has been made of those bills, in which there has been charged the additional amount necessary for the accommodation of the subscriber.

☞ Circular.—The undersigned will take pleasure in supplying his Professional Brethren, with vaccine virus, as heretofore, on the receipt of two postage stamps. At the same time, he is desirous of aiding the Female Orphan Asylum of this city, a part of whose inmates are sad legacies of the recent civil strife. He, therefore, proposes to all who can afford it, to remit one dollar for each crust, to be applied to the uses of this touching charity.

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Should any abnormal symptoms be produced, or should it fail altogether, he will be glad to be notified.

James Bolton, M. D., Richmond, Va.

☞ This Journal is published as a Monthly octavo of ninety-six pages. It is now the largest Medical Monthly issued in America.

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All contributions or papers, intended for insertion in the next Number of the Journal, should be received by the middle of the month preceding.

Contributions for publication must bear the signature of the writer, and must be communicated to this Journal exclusively.

Original articles should be written on one side only of each sheet, and the manuscript should be, by the sign (¶), divided into paragraphs.

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MORTUARY.

Rostan, M., Oct. 4th, 1866, Paris.

Townsend, Dr. W. E. Nov. 9th, 1866, Boston, Mass.

Watson, Dr. John M., Sept. 19th, 1866, Nashville, Tenn.

Barlow, Dr. G. H.. Oct. 13th, 1866, Sydenham, England.

Brainard, Dr. Daniel, Oct. 10th, 1866, Chicago, Ill.

Tripler, Brevet Brig. C. S., U. S. A., Oct. 22d, 1866, Cincinnati, Ohio.

Sabal, Dr. A. M., Sept. 17th, 1866, Jacksonville, Fla.

ACCEPTED ARTICLES.

Emmet's Operation for Procidentia Uteri. By James Dunn, M. D., Petersburg, Va.

Resections of Shoulder and Elbow-Joints. By H. L. Thomas, M. D., Richmond, Va.

Case of Puerperal Convulsions, with Instrumental Labour, followed by Operation for Atresia Vaginæ. By Robert B. Nelson, M. D., Charlottesville, Va.

Why do not Gun-Shot Wounds heal by Quick Union. By Julian J. Chisolm, M. D., Prof. Surgery Med. College State of South Carolina.

Treatment of Diphtheria. By J. G. M. Ramsey, M. D., Charlotte, N. C.

BOOKS AND JOURNALS RECEIVED.

Conservative Surgery. By H. G. Davis, M. D. New York. D. Appleton & Co. From the Publishers, through Woodhouse & Parham, Richmond, Va.

Infantile Paralysis. By Charles Fayette Taylor, M. D. Philadelphia. J. B. Lippincott & Co. 1867. From the Publishers, [through Woodhouse & Parham.]

Index of Diseases and their Treatment. By Thomas Hawkes Tanner, M. D., F. L. S. Philadelphia. Lindsay & Blakiston. 1867. From the Publishers, [through Woodhouse & Parham.

Insanity in its Medico-Legal Relations. Opinion relative to the testamentary treatment of the late James C. Johnston, Chowan Co., N. C. By W. A. Hammond, M. D., etc. New York.—Baker, Voorhis & Co. 1866. From the Publishers.

Introductory Address to the Corps of Cadets of the Va. Mil. Institute. By Francis H. Smith, A. M., Superintendent. From the Author.

Annual Report of the Surgeon General U. S A. 1866. A Classified Catalogue, with prices, of Medical Text Books, Instruments, Apparatus, etc. Price 25 cents. January, 1867.—For sale at the office of the Medical and Surgical Reporter, Philadelphia, Penn.

Trubner's American and Oriental Literary Record. London.

The following Exchanges are regularly received: The Atlanta Medical and Surgical Journal; Boston Medical and Surgical Journal; Braithwaite's Retrospect; Buffalo Medical and Surgical Journal; Chicago Medical Journal; Chicago Medical Examiner; Cincinnati Lancet and Observer; Druggist's Circular and Chemical Gazette; Galveston Medical Journal; Journal of Applied Chemistry; London Lancet—Original and Reprint; New York Medical Record; Nashville Journal of Medicine and Surgery; New Orleans Medical Journal; New York Medical Journal; Pacific Medical and Surgical Journal; St. Louis Medical and Surgical Journal; Savannah Journal of Medicine and Surgery; Southern Journal of the Medical Sciences; Southern Medical and Surgical Journal; The American Journal of Pharmacy; The American Journal of the Medical Sciences; Dental Cosmos; The Detroit Review; Philadelphia Reporter; The St. Louis Medical Reporter; Le Mouvement Medicale, Paris; Journal de Medecine Mentale, Paris; Medical Press and Circular, Dublin; Revue de Therapeutique Medico Chirurgicale, Paris; Revue Medicale, Paris; Cincinnati Journal of Medicine; Canada Medical Journal; Journal of Materia Medica; The Ophthalmic Review, London; Dublin Quarterly Journal of Medical Science; Medical Mirror, London; Debow's Review; Littell's Living Age; The Farmer; London Punch.

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The Richmond Medical Journal.

Vol. III. February, 1867. No. 2.

ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—ON CERTAIN MORBID CONDITIONS OF THE SENSORIAL SYSTEM. By SAMUEL HENRY DICKSON, M. D., LL. D., Prof. of the Theory and Practice of Medicine, in the Jefferson Medical College, Philadelphia, Pa.

The study of the Phenomena of Diseases constitutes a vast field of observation and record. They manifest themselves by signs and symptoms which, on the one hand, may only affect the consciousness of the subject, and on the other, such as may become obvious to those about him. These latter, the palpable tokens by which we recognize its presence, it behooves us to regard with special consideration.

No differences among individual men are more remarkable than their several habits of attention, of observation, of vigilance, apprehension, promptness; their curiosity to see and know, their inclination and capacity for inquiry. We meet occasionally with natural-born policemen, sagacious detectives, lawyers dreaded for their shrewd cross-examinations; and, in the ordinary affairs of business-life with a class noted for watching the currents in motion

around them, and swift to avail themselves of their advantage over those who may be deficient in these useful qualities. Thus, in the sick-room, while one Physician will consume his own time, and wear out the patience of his suffering client by vague and inconclusive questioning, another will, at a glance, discover and fix upon some circumstance which will serve to guide him in his investigation; notice some wandering look, some movement, some disorder of condition, some departure from familiar and natural modes of thought, speech or action. In certain instances we shall be forced to admire the rapid and almost magnetic affinity thus established between them, to the great delight and hopeful excitement of the sick man, who is always—if of average intelligence—conscious of the existence or default of this mutual understanding, so important to the proper comprehension and treatment of his case.

This quick, nice readiness is doubtless a natural gift. Those who possess it are bound to cultivate and perfect it; if not cultivated indeed it will avail them little, as would the talent for music, or painting, or sculpture. Nor need those despair who are not originally thus gifted. The art of close observation, the habit of diligent and watchful attention may be acquired; the capacity of delicate apprehension may be built up and improved. Every student should make it his determined resolve—to which ever of the above categories he may belong—that he will not fail to mark every thing that may present itself to his notice, in and about the chamber and the person under his care, letting nothing escape his eye, his ear, or any of his awakened senses.

We divide the phenomena of diseases into the *objective*, those of which I have just spoken, of which we can take cognizance by sight and touch, and hearing and smell; and the *subjective*, the latter developed in and by and through the consciousness of the subject, from whom we are to derive all our information concerning them, all our knowledge of them. In the correct appreciation of all these there is often great difficulty. He who underrates the effort necessary for proper performance of his task, or enters upon it carelessly, is destined to mortifying failure. It requires indeed all his philosophy, self-possession, command of temper and acuteness. Language, as an instrument of communication, as an exponent of

feeling, is susceptible of infinite abuse and misuse, of misapplication, exaggeration, suppression of the true and suggestion of the false, either voluntarily or involuntarily; either by ignorance, indifference or design. The nice diagnostician needs all the ability requisite in a a good cross-examination at the bar.

Again: We speak of symptoms and signs with a sort of vague discrimination; vague because the terms are employed arbitrarily. We are apt, however, to reserve the word *sign* to indicate special relation, significance etymologically; we say physical "signs," not physical "symptoms;" we apply the word "symptom" more in reference to the general history, as we speak of the symptoms which distinguish the separate types of fever; the word "sign" rather in regard to the individual patient—as, the signs or indications of a nervous temperament, a lymphatic habit, a strumous diathesis, a feeble constitution. Besides this diagnostic selection, we point our prognostic; we speak of bad "symptoms" generally, but we denote some special fact in a given case as a bad "sign." Yet, it must be acknowledged that the terms are often used convertibly or promiscuously.

I propose at present to offer some brief and condensed views of certain of the phenomena of what are called Nervous Diseases, characteristically or emphatically; manifestations of disordered condition or action in the organs and textures composing the sensorial system. It is through, in and by these organs that we feel, think and know. Our individual integrity, our consciousness of self or personal identity depends upon them; it is they that connect and bring into relation with each other all the organs or parts of which we are composed. Nothing can be more obscure and inscrutable than the mode in which the several functions of this system are performed. In all other cases, our anatomical, mechanical and chemical science avails to enlighten us with some instructive suggestions and analogies; as in the valvular structures of the heart and vessels, the arrangement of the joints and ligaments, and the changes of digestion and respiration. Not so in the field now before us. A little albumen and fat and phosphorus in soft masses, or filling hollow membranous tubes—"only this, and nothing more"—serves the most wonderful and mysterious purposes. The tubes

Beale maintains to be endless, turning back in loops, not losing themselves by distribution; Rouget describes their finely granular terminal expansion in disks. At any rate sensibility or sensitiveness is so thoroughly diffused, statically, as Radcliffe supposes diffused electricity to exist in muscle, that I do not doubt the distribution every where of nervous matter, the substance endowed with the capacity of taking cognizance of impressions from without. Nor can I conceive of this capacity except as multiform; so far from being a unit, that as Brown-Sequard contends for nerves of heat or temperature, resistance or solidity and the like, in addition to the special nerves of the senses, touch, hearing, &c., so I assume as of absolute necessity the presence of nervous matter all over the surface, at least susceptible of pain in all its varied characters. The alternative of this belief in the universal diffusion of sensitive tissue or nervous matter, is simply the admission that the property or quality of sensitiveness belongs to all the solid textures, promiscuously and independently of the presence of nerve or nerve-fluid. Parts insensible in health become acutely sensitive when inflamed; neuralgia often fixes its concentrated agonies in localities of no special nervous development, proving a diffused capacity of suffering, if of no other mode of perception.

It is not probable that any physiologist or pathologist would venture to maintain the absolute electrical character of the nervous influence. An afferent nerve conducts, as the phrase is, something from the periphery to the great central column and ganglion; an efferent nerve conducts something from the centre to the circumference. By the first function it is given to us to perceive, to know; by the second, to will, to act, to move. The nerve will conduct the electric fluid, if it be a fluid, and so will a copper or iron wire; but the metallic thread will not conduct volition downwards, nor convey a sensation upwards to excite perception. Nevertheless, the books are full of assumptions or suggestions of this identity—for the phrases mean more than the assertion even of the closest analogy. Radcliffe makes the state of the muscle-fibre both in repose and contraction, depend upon its electrical condition, and Todd and others, indulge in frequent reference to the polarity, polarization and depolarization of nerve-textures. No one can

doubt the ready susceptibility of the body to electrical influences; so great is it indeed that it would seem scarcely possible to exaggerate it. Yet, surely this has been done by Radcliffe, as above, in ascribing all muscular action to such influence.* It is among the most important agents with which the animal constitution is arranged to harmonize, and without whose concurrence animal life would be imperfectly, if at all developed, heat namely, oxygen, and light. With all these the nervous fluid or force is in close accord, ready to receive and transmit their impressions and a thousand others to the seat and principle of vitality, with which it is more intimately interwoven than any other of the tissues, fluids, forces, or parts which go to constitute our complicated organism.

Among the most frequent symptoms of disease in general, are Pain, Wakefulness and Coma, Spasm and Convulsion, on which I shall proceed to treat briefly and comprehensively. Pain is a topic of so wide import that it would be vain to attempt here its full discussion; my remarks will include but a few of its vast and interesting relations. It is an almost invariable concomitant, an expression we might call it, or familiar synonym of disease. It is a simple idea, therefore indefinable—an inexorable fact, undefined. All attempts to effect such definitions are utter failures, or mere tautology. The states of sensation which are agreeable to our nature, says Stoddard, "we call properly pleasure; those of an opposite kind we call pain." This is nothing more than Plato's—"the effect of interruption of the bodily harmony." Aristotle defines it as "the reflex of bodily imperfection." Sir William Hamilton attempting to combine the two and freely paraphrasing both, tells us that "pleasure is the result of certain harmonious relations, certain agreements; Pain the effect of certain inharmonious relations, certain disagreements. Pleasure is a result of the spontaneous and unimpeded exertion of a power, of whose energy we are conscious; Pain a reflex of the overstrained or repressed exertion of such a power." "Pain in neuralgia," says Romberg, "is the prayer of the nerve for healthy blood." Is not all pain truly neural-

* It is still more exaggerated by Brown-Sequard when he affirms, as he does in his "Experimental Researches," p. 11: "I have seen muscles CREATED by galvanism and becoming as strong as they are in healthy men—in cases of lead palsy, in which the extensor muscles, as far as I have been able to judge, were completely destroyed and replaced by fibrous tissue."

gic? Anstie and Radcliffe agree in ascribing it to "low action;" "impaired vitality." I need not offer any comment upon these phrases, which it will at once be seen upon reflection, evade the point of inquiry by reference to alleged causes rather than description of the effect.

When we use the word we must take it for granted, that we understand each other, and mean the same thing. It may be dissected, so to speak, discriminated as to modes, separated under several categories distinguished by epithets conventionally descriptive; thus we talk of aching, cutting, tearing, burning, oppressive, sharp, dull pain.

It is not, as is suggested in the quotations above given and indeed very generally received, it is not the correlative of pleasure. Many parts and textures suffer pain, that are incapable of definite local gratification or enjoyment, that are indeed absolutely indifferent and unconscious physiologically. This is true of the brain substance, of the serous, and glandular and other tissues, which when diseased, become seats of severe pain. Organs and surfaces that are susceptible of pleasure may suffer correlatively or in contrast, but they also suffer in modes which possess no relevancy with their special or functional sensitiveness. Thus the Eye, the inlet of exquisite enjoyment, is shocked by deformity as it is pleased with beauty, and dazzled, confused and pained with discordant tints, as it is delighted with soft hues, and gorgeous colouring. But these are slight annoyances compared with the gratuitous and unassociated pangs inflicted by the intrusion of a grain of sand, the presence of a hair, the pungency of a wreath of smoke or a drop of acid. The Ear entranced with the soft, melting song, the soul-stirring clang of martial music and the subduing inflections of the human voice, is hurt correspondingly by the grating of harsh, rough sounds, and the jar of loud and violent explosions. Yet these are trifles in contrast with the tortures of mechanical injury and of the inflammation to which it is so often subjected.

Final causes can hardly be entirely banished from the domains of Philosophy; they must be referred to however, with much reserve always and caution. On every side we hear of the uses of Pain, as warning and protective against lesion of parts; as indicating the

point which stands in need of attention and care; nay, as suggestive often of the mode of relief required.

Sir Humphrey Davy has ventured the greatest hardihood of assertion on this point. "Pain seems," he says in his Salmonia, "in all cases to precede the mutilation and destruction of those organs which are essential to vitality, and for the end of preserving them." And again: "Pain seems intended by an all-wise Providence to prevent the dissolution of organs, and cannot follow their destruction." The facts are not as he states them, nay, not even in their seeming, and the reasoning shadowed forth is most inconsequent.—Pain does not always precede the destruction of organs; if it did, we would be forced logically to consider it as causative, not preventive. It can and does sometimes follow it. The destruction of an organ is not necessarily its death. The eye and the womb, unfitted for their physiological purposes, are often seats of intense agony. To all such eulogy I would reply farther: That Pain as warning or protective always comes too late. It is the product, the result of diseased action, which, so far from having any tendency to prevent or arrest, it excites and exasperates. If I am told that the remembrance of suffering on one occasion serves as premonition on the next, I refer to the familiar readiness with which the past is forgotten. Martineau indeed dwells on the extreme facility of oblivion in regard to suffering of every kind, as one of the happiest traits in our natural constitution. And besides this, I would ask whether men would not as well profit by the experience of loss or injury, even if painless, as we protect our persons and houses from the perils of water and fire.

It must be admitted, too, that the warning, the information, the instruction thus given is often insufficient or defective, and frequently irrelevant and illusory. Some of the most fatal diseases imply little or no suffering, as in tuberculosis and certain cerebral affections; and others that involve little danger, are full of agony, as toothache, gout, neuralgia. I would not undervalue the utility of pain as indicating the organ assailed; but let us reflect how often this is deceptive. In a febrile attack we have pain all over the body; and the most dangerous fevers commence frequently with least suffering. We can rarely depend with any confidence on this

diagnostic indication. I will not dwell on the sympathies which occasionally lead us astray: but where is the seat of Diabetes—of Leuchœmia—of Epilepsy?

It is true that the kind of pain felt is sometimes instinctively suggestive of relevant methods of relief, and here is the foundation of the exaggerated notions concerning its usefulness, upon which I am commenting. I would avoid extremes. The pain of fatigue suggests repose; the pain of tension demands relaxation; the pain of burning calls for the application of cold. Perhaps this list may be extended; let us enlarge it to its fullest natural limit. And then—what a vast number and variety of modes of Pain will remain that are purely evil, unmitigable, merciless evil. Aching in all its diversities—toothache, facial and general neuralgia, the cutting pain of this last and of the sorrowing parturient woman, the mingled lancinating and burning of Carcinoma—what shall we say of all these?

For my own part I am no stoic. I regard with contempt the stolid philosophy of Zeno. I am professionally the sworn enemy to suffering in all its forms. I will endeavour to remove it, to put an end to it whenever it is possible. I will never inflict it unless satisfied that it is the least of evils forced upon my selection, and then I shall consider it regretfully, and almost remorsefully, as the true Surgeon an amputation.

Instinct as well as reason has led all men everywhere to seek the abolition of Pain. Hence the universal delight in Narcotics, greedily sought for, discovered, invented. We hail with wide acclaim, with joyful exultation, the introduction of Anæsthetics; the Nitrous Oxyde of poor Wells, the Æther of Morton, the Chloroform of Simpson. Old Burton spoke like an oracle when he summed up the account of suffering and enjoyment for our common humanity. "For a pint of honey thou shalt find a gallon of gall; for a drachm of pleasure a pound of pain; for an inch of mirth an ell of moan; as an ivy doth an oak, these miseries encompass our life." Boyle, in his great Dictionary, places the matter in a different and very striking light. "It may be said that the days in which men enjoy their health are in greater number than those wherein they are sick. But there is perhaps as much misery in fifteen days

sickness as there is pleasure in fifteen years' health." (Pericles.)* Let us reflect too that pleasure is always fleeting—neither to be protracted nor promptly renewed; when intense, its ecstacy is momentary, and dies away in indifference, satiety and disgust. Yet I would not have you lose sight of the reverse of the picture.—While pleasure enervates and emasculates both the mind and body, pain makes heroes; develops courage, patience and defiant strength of will; and giving opportunity for sympathy and benevolence, raises man above the angels who can only pity but cannot sympathize or make self-sacrifices, in all which man approaches and imitates the God-like character.

Considering pain as a symptom in Diseases we remark that it connects itself with the most opposite conditions of the organism and its parts; with hyperæmia and anæmia, with too much and too little action; with tension and laxity; it belongs to both local and constitutional derangements, and results as well from mere functional disturbance as from structural and organic change. So far as I am aware, it is physically compensative only in its general and vague indication of the viscus attacked, and its equally vague suggestion of the mode in which the suffering originates. I need not repeat that even in these relations it is insufficient as well as uncertain, and not seldom actually delusive. Headache and gastric disorder, cerebral and cardiac affections, spasms, convulsions and numerous other instances might be offered in which it gives no sign, in which it is in no degree to be depended on, and if depended on would be altogether likely to mislead.

On the directly evil and injurious influences of pain, it cannot be necessary to dwell. It excites morbidly an already perturbed system; it irritates the part or constitution of which its very presence arouses and intensifies the irritability; it exhausts the vital power; it disorders the intelligence; inflicts fear; depresses

* H. C. Lea, in his erudite and interesting Work on "Superstition and Force," confirms this view when treating of the endless variety and unspeakable intensity of the various modes of torture invented and employed by different nations in successive ages: "These trials (he says) seem to transcend the possibility of human strength. The limitless capacity of human nature for inflicting is not complemented by a limited capacity of endurance on the part of the victim." (p. 383.) The agonies of many forms of disease are beyond imagination; not only as grievous as any artificial inflictions, but enhanced by a correlative morbid sensitiveness, a hyperæsthesia generated by the malady itself.

and dejects the spirits, and paralyses often the functional capacity of the tissue which it attacks.

The eulogists of pain have, however, generally failed to lay the proper stress upon its incidental therapeutic efficacy under occasional contingencies. Prof. Hamilton (Med. Rec. Sept. 15) assents to the ancient doctrine that pain is a stimulant—so totally inconsistent with the views of Radcliffe and Anstie, who look upon it as essentially connected with "lowered vitality"—and in surgical emergencies would not hesitate to resort to it as such. It is often employed with this purpose in medical practice. The pain which they produce, for example, makes blisters serviceable in certain stages of fevers and other maladies, in which prompt or sudden prostration threatens without actual exhaustion of the visvitæ. I was once engaged in attendance on a case of myelitis presenting paroxyms of the most acutely agonizing spasm, quasi tetanic, for the relief of which chloroform was freely administered. During its inhalation my patient was accustomed to announce the grateful approach of anæsthesia by simply raising a finger, when the remedy was withdrawn. One day a friend held the chloroform to his mouth and nostrils, standing so that I could not see the face of the sick man, but sat watching his hand for the usual signal. Thus occupied, I was startled by my friend's suddenly turning on me with the announcement, "he's dead!" which he repeated quickly and emphatically with an oath. Our patient lay before us pale, breathless, pulseless; seizing a vial of hartshorn, fortunately at hand, I lifted his eye-lid and touched the conjunctiva with my finger wetted with the sharp spirits of ammonia, and he sprang up into life again with a shrill cry.

Wakefulness—insomnia, is the next of the symptoms of sensorial disease to be noticed here. Sleep, the repose of the nervous system emphatically, the renovator of its exhausted power, is one of the most absolute necessities of animal existence. Sir John Sinclair, in his inquiries concerning longevity, declares that there was but one uniform circumstance attendant upon or coincident with protracted life. He had seen extreme old age in the glutton and the ascetic, in the drunkard and the temperate man, in the stolid and the excitable, in the fool and the wise man—but all, without an

exception, who had lived very long, were good and sound sleepers. Brigham, one of the highest authorities on insanity, announces an analogous coincidence of contrasted character here; morbid vigilance being its most frequent precursor, as we know it to be one of its most constant and unmanageable attendants; indeed he pronounces it to be prominent among its immediate causes. Protracted wakefulness, it would seem, must terminate in both bodily prostration and morbidity or abolition of intelligence. It is curious to find so respectable an authority as Laycock making light of the effect of wakefulness. He tells us that he knew a gentleman who never slept a moment for a month, yet with no bad results. Bœrhaave is recorded not to have slept for six weeks, in consequence of intense study. Handfield Jones had "a patient from India, who thinks he never slept an hour for five months." Yet, Winslow, on the same page in which he refers to the case of Bœrhaave, gives the story of a Chinese condemned to die by privation of sleep, and states that he survived, enduring this torture not more than nineteen days.

There must be carelessness, or error here surely. I can much more readily believe that in the strange instances above reported, there was some mistake, some hallucination, some defect of supervision, or even some wilful misstatement by an imbecile, insane, or vicious patient, than accept as true an assertion so contrary to nature, to our constant experience, and to all seeming probability.

The state of sleep has attracted strongly the attention of the philosopher and the poet, as well as of the physiologist. Some strange misapprehensions have arisen concerning it; one of the loftiest of our poets uses the phrase, "Death's twin brother—sleep." Sir Thomas More would never trust himself to "nature's soft nurse," on account of the alleged family likeness, without a prayer to Heaven for protection. Montaigne, the quaint old Gaul, also dwells on "the resemblance between death and sleep," and "wonders how carelessly we pass from waking to sleep, and with how little anxiety we lose the consciousness of light and of ourselves." Nay, the philosophical Good defines sleep as "the death or torpitude of the voluntary organs, while the involuntary continue their accustomed actions; death is the torpitude of the whole." And Bichat, pro-

found physiologist as he is, affirms similarly, that "death is but a collection of partial sleeps of the several organs and functions."

I protest against these views as full of gross error. Death implies inaction from incapacity; no such condition attends sleep; the vital organs are all in full play—circulation, respiration, nutrition, assimilation, secretion and excretion go on uninterruptedly. Death is the beginning of disintegration, destructive change: sleep is the period of renovation, restorative change. Death is the correlative and contrast of organic activity; sleep is the correlative and opposite or negation of sensuousness, sensitiveness, psychical activity. Whatever we may conceive *nervous power* to be or to consist in, and whatever source we may suppose it to flow from, and in whatever mode we may imagine it to be generated, this is certain—that it is liable to be diminished by use, or drained away, or exhausted, and thus all our capacities for action may be impaired or abolished. Its resupply is imperatively required; but whence? and how? Of course we must presuppose as fundamentally necessary a sufficiency of food for nutrition and assimilation. For sensorial purposes this must be elaborated in a peculiar and specific manner, and converted into the proper tissue or substance adapted dynamically, and in a certain sense accumulated to make up for previous subtraction and deficiency. By what organs, what textures is this elaboration effected? Todd affirms, teaching the generally received doctrine, that "the centres, the collected masses of nervous matter are the great sources of nervous power; they are the laboratories in which the nervous power is generated." I am not satisfied with this position. I am rather inclined to regard the Ganglia, great and small, the Brain, Cerebellum, Spinal Cord and the rest as places of deposit, store-houses of this force, in which it is gathered, concentrated and kept ready for the purposes of the animal economy. I would agree with the great Italian, Matteucci, who points out a more probable source of the material nervous agent. This fluid, for so he considers it, he maintains to be produced by the nutritive processes every where; "it is developed principally in the muscles, enters continually into the nerves, and from them passes into the brain, assuming in these bodies a new state which is no longer that of the free fluid; this state is that of the nervous current which

proceeds from the extremities to the brain, and returns in the contrary direction."

Radcliffe whose speculations on this subject are peculiar, and urged with much ingenuity, confounding, as it seems, the nervous with the electric fluid, has abandoned the idea of the dynamic condition of electricity or its action by currents in the natural or passive state of muscular and other parts, and has arrived at the conclusion that it exists in these parts statically, constituting, as I understand him, an essential portion of their elementary condition. I dissent from his assumption of the identity of the two agents, built, as it is, exclusively upon coincidences occurring only in muscular contraction, one of the functions in which nerve-matter is concerned; we notice none of them in the other movements and changes dependent on the presence of such matter. I readily accept his views as to the static or quiescent condition of whatever agent is engaged in the nervous functions. The currents set in motion in all modes of action, bear away the important element, which needs therefore to be incessantly resupplied. Thought, passion, emotion, intellection generally, consume it as well as muscular contraction: repose of both mind and body; inaction of voluntary muscle and suspension of reasoning and attention, allow of its restoration; hence the need of sleep.

What is the physical condition of the Brain during sleep? This question has interested physiologists the more because of the universal impression—uncontradicted, but we must admit not absolutely proved—that it is to this great centre exclusively we must look for all explanation of the phenomena. I have long contended and still maintain that the concurrence of two circumstances is necessary to the supervention of sleep. These are a subsidence, improperly spoken of as a collapse of the cerebral organs, a suspension of their activity on the one hand, and on the other a coincident fullness, vascular, probably venous, perhaps in part capillary, by which a degree of gentle pressure is made upon the cerebral substance, and passively submitted to. The bony skull is an impervious, unyielding case, which must be always full. It contains brain matter and membranes, blood of two kinds, and spino-cerebral fluid. The absolute bulk of all these taken collectively

must remain the same, admitting no obvious difference, according to an inexorable physical law. But their relative amounts may vary, and as such variation is both very prompt and quite considerable, it must, of necessity take place in the distribution of the two kinds of blood. Erethism, the tense state of action, depends on or implies fulness of one class of vessels, the arterial; the comparative laxity, or so-called collapse, subsidence from inaction or passivity, demands imperatively the filling of the other class, the venous, that the bulk of the intra-cranial mass be preserved, and a vacuum be avoided or prevented. Observers report the brain, when laid bare and watched, to be perpetually changing its appearance, even as Holland reminds us, in the condition of comparative repose; showing local fullness and collapse alternately, from moment to moment. Blumenbach witnessed the sinking of the brain in a person whenever he was asleep and a swelling when he awoke. Dendy relates the story of a woman who had lost part of the skull. When she was in deep sleep the brain lay almost motionless; when she was dreaming it became elevated; when her dreams were very vivid, and when she was awake, the brain protruded through the cranial aperture. Hammond calls sleep "a function," without sufficient reason I think. The functions of the brain are numerous and varied; but it is when least active in their performance that the state of sleep is most perfect. The experiments performed by himself and Durham, to whom he strangely refers as the original observer of facts with which the Profession is familiar, go merely to confirm the statements of Blumenbach, Dendy and Combe. But they are satisfied with half the truth, and attribute all the phenomena to the "collapse," upon which they fix their exclusive attention.

What then is this collapse of the Brain, observed whenever it is inactive? It is the opposite or contrast of determination to the organ, clearly. "An affinity for, a demand, a rapid assimilation in any part acting through its vessels," says Draper, "constitutes determination of blood to a part; this is a mingled condition of nervous action and chemical change or appropriation." Solly offers us a farther step in explanation. "The middle or muscular coat of the arteries in health, contracts with every systole of the ventricles, just sufficiently to give solidity to the wall of the pipe, so that the

force of the contraction is not lost upon a yielding surface; a much greater force is required to drive water through a leathern hose than through a leaden tube. The middle coat contracts sufficiently to assimilate the artery, physically and temporarily to the leaden tube." It is easy to see that the effect of nervous excitement upon the arterial tissue must then produce a more forcible entrance of blood into the smaller vessels and the parenchyma, and thus we have erethism, or the erectile fullness of activity—the afflux of wakefulness.

"The conditions necessary for the sleep-repose of the brain," says Handfield Jones, "seem to be essentially these two: 1. A non-excited or active state of the cerebral tissue. 2. In most instances a diminished afflux of blood to the organ." But if the afflux be diminished, how is the cranial cavity to be kept in its natural condition of fullness, unless the reflux—through the veins—be proportionally retarded? He ascribes sleep to "cerebral anæmia with contraction of the arteries;" but a page or two after, he says that "drowsiness may be associated with hyperæmia, but this is almost invariably of venous character." I maintain that it is and must be of venous character. The terms anæmia and collapse are too carelessly used to express a condition not morbid; the nutritive vessels must be normally full and active; those only which supply the erethism of intellection become lax; nutrition and nervous restoration go on best—it is scarcely too much to say, only, in sleep. If there were not this suspension of erethism, this comparative arterial sinking or laxity, there could not occur the fullness or comparative congestion in the sinuses and veins which make the pressure necessary to admit of or occasion sleep; and this is the obvious explanation of the wakefulness compelled by involuntary and persistent intellection.

Durham, and his follower, Hammond, give no consideration to the physical law recognized in the old phrase that "nature abhors a vacuum." When the skull is trephined, broken into and external pressure admitted from the atmosphere, the collapse of which they speak, can occur without its violation, as protrusion may occur. But collapse—or shrinking from the entire skull without an opening—how can that take place? Durham ventures to affirm that it does happen. He fastens a watch-glass over the opening—thus

restoring the integrity of the globe—makes the closure air-tight, and yet, sees the brain sink away from under the glass when the animal sleeps. But if there were thus a vacuum produced between the glass and the brain surface, a great physical law has been violated. I cannot accept this conclusion, and prefer to believe that there is some error in the record.

There is certainly an analogy between deep sleep on the one hand and stupor or coma on the other. I do not assert their identity in nature, but their close similarity needs no remark. Now we know that palpable pressure on the brain, however effected, will generally, if not uniformly, induce stupor. If Solly be right in ascribing the phenomena of Delirium Tremens to cerebral anæmia, we understand at once the terrible wakefulness of that malady, in which the deficiency of blood—if it exist and he is right—must be made up by increase of cerebro-spinal fluid, or serous effusion, or some other mode of filling. The cranial space, the sinuses and veins being undistended with the amount of fluid requisite to make the physiological compression on which sleep depends. We comprehend too why an apoplectic, if the coats of his blood vessels have not given way and the pressure on his brain is still intra-vascular, shall be awakened from his stupor by venesection, or the cold douche or strong derivatives. Extreme fatigue and long exposure to severe cold will bring on a sleep closely allied to coma in its profound stupor and insensibility, and the difficulty of arousing the subject. An attempt is made, ingenious enough, by Hammond to discriminate from sleep the condition produced by the administration of opium and other hypnotics. The modus operandi of no single article of the materia medica is clearly understood; but the sleep from alcohol and opium if not from other narcotics, resembles natural sleep as closely as the several varied slumbers under different circumstances resemble each other. One fact is worth remembering—in coma the pupil of the eye is usually dilated; opium causes contraction of the pupil. Now Mayo and Graves both tell us that in healthy sleep, the pupil is contracted as it is from opium. We seek the recumbent posture uniformly as favouring sleep, thus promoting the flow of blood to the head and retarding its return. We press these conditions, when we obtain the soporific effect of

rocking in a cradle; so act also the oscillations of a hammock; still more the gyrations of a circular swing, and most of all and infallibly as we are told, the motion of the body lying with feet to the centre and head to the circumference of a revolving platform; the blood vehemently sent to the head by centrifugal force.

Cruveilhier tells us that if the dura-mater in a dog, is punctured between the atlas and the occipital bone, and the cerebro-spinal fluid allowed to escape, the animal reels about like a drunken man and lies down for hours in a state of stupor, but the day following he is quite recovered. Here the normal and equable pressure being suddenly abstracted, the animal suffers from the derangement; blood is unduly detained in the sinuses and veins, and stupor is occasioned. In a few hours the balance is reädjusted by the effusion of the normal amount of fluid.

Pressure upon the Carotid produces very striking effects, with which I am personally quite familiar. To Parry we owe the recommendation of this very available method of palliating the tortures of headache. Rombug informs us that he has found this "compressing the carotids an effectual prophylactic in epilepsy, if employed in time in patients who have forewarnings." Hammond says it puts to sleep. I wish to heaven it would; but I have never known that desirable result follow it. In my own case the pulse becomes slow, after a while intermits and the heart labours irregularly; then ensues some dyspnœa with panting; there is some dimness of vision and dullness of hearing; intelligence and consciousness are in a degree confused or uncertain; the surface of the cheek and temple grows hot and then cold; the harsh force of the throb in the aching head is diminished and the pain lessened or suspended; but sleep, or the inclination to sleep is no part of my often repeated experience.

Kussmaul and Tenner give us the result of their experiments on six male adults. "When both Carotids were compressed there was pallor of the face with loss of consciousness, dilatation of the pupils, slow, deep, sighing, respiration, and in two cases of weak intellect, a choking sensation followed by vomiting and general convulsions." (H. Jones, p. 48.)

Brown-Séquard, speaking of this pressure "as a means employed

against headache, congestion and inflammation of the brain," says: "This treatment was employed in the view that by stopping circulation in that blood vessel, the amount of blood in the brain was diminished. But this is far from being the case. Whatever apparent good effect there may be from pressure in the region of the carotid, it has nothing to do in diminishing the supply of blood to the brain, but it is chiefly a pressure on the cervical sympathetic nerve, 'which brings about the result; for that nerve being irritated by such pressure, causes a contraction of the blood-vessels of the brain.' I need not do more than point out here the self-contradictory statement 'that this pressure has nothing to do in diminishing the supply of blood to the brain,' when he affirms immediately after that it causes a contraction of the blood-vessels of the brain." Surely contracted vessels contain a less amount.

But I maintain the facts to be as I have stated above; that pressure on the carotid does impede the flow of blood, the calibre of the artery being lessened, the force of impulse immediately restrained and rendered less grievous and harsh, and the general circulation becoming slower—with intermission of the pulse and of the heart's action. The tender cerebral mass is relieved by the suspension of the throbbing, and a whizzing in the vessel, subjectively perceived, manifests the obstruction. That pressure is often made on the nerve too, is obvious from the panting or sighing and general distress; but these annoyances do not always attend, and I am able sometimes to obtain its benefits entirely without them. Brown-Séquard himself refers to the difference of effects attainable. He enjoins the pressure to be carefully made, so as "to avoid the veins of the neck and trachea." He supposes Jacobi to have compressed them in his cases, thus described: "There is a feeling of burning heat which spreads suddenly over the head and neck, down to the chest—with a feeling of heat in the head in many. The face becomes darker, with frequently, the production of a vivid colour. An extremely painful sense of compression of the chest, a feeling of tension, weight and pain in the head, giddiness, staggering, sleepiness, sudden sleep, with stertorous breathing; in many, incipient syncope, with uncertainty in the use of the lower extremities, and sometimes sudden and entire, but transient insensibility."

These are symptoms of threatening or impending apoplexy, justly ascribable to the obstruction of return of blood from the head through the jugulars. You may in your experiment press the artery alone, or you may include the nerve, which is probably done in the usual method, or you may coarsely press artery, nerve and vein altogether, and the effects will correspond. From venous pressure, will follow stupor or sleep, or coma, with stertorous breathing and paralysis; compression of the nerve will give panting, intermission of pulse, palpitation, syncope, dilatation of pupils, heat and cold of the face and neck; of the artery, carefully made, as Parry advises, "with the thumb on a level with the superior border of the cricoid cartilage, against the vertebra," slowness of pulse, diminution of impulse, audible whizzing in the head and a sense of sinking.

In dreaming, it is probable that some external sound or touch, or some internal organic movement, stirring up, directly or by association, a definite reminiscence or feeling, arouses a corresponding portion of the Brain which undergoes erethism; awaking partially, other thoughts and emotions are excited, the action extending from the intellectional to the volitional, and the dream is put into action: this is somnambulism. Or, the emotional excitement becoming paramount, what is called trance or ecstasy takes place. I have seen a patient lie in this condition for many hours, reciting meanwhile verses of melodious rhythm and deep pathos, her eyes open and highly coloured and suffused, and pouring forth ceaseless floods of tears.

A sort of duplicate existence is sometimes developed under these circumstances. Long ago I published the case of Nancy Rector, who lived thus two separate lives by night and day; and have since seen, in consultation, another of the same nature. Both the young women carried on conversations which were connected relatively in the states of sleeping and waking, but did not intermingle; the memories of them being distinct, and their records kept apart fairly.

In the first of these instances there happened some curious physical phenomena, such as spontaneous dislocation of two or three of the joints from muscular action, replaced after some time, and much suffering also by muscular action; reminding us of the accurate

reports of Brodie, who directs our attention to "a peculiar relaxation of the joints in hysterical females, which is apt to give rise to sub-luxation." In the other there was an intensification of the power of vision, approaching the loftiest pretensions of the clairvoyant. The room which she dwelt in could not be darkened so as to render it difficult for her to discern any object, or even to read the most obscure manuscript.

The relations of Wakefulness and Sleep to diseases generally, demand attention as of high practical importance to be known and appreciated. As a familiar rule, and with the exception of those maladies of which coma, stupor, somnambulism and convulsions form a part, the state of sleep is hailed, both as a good symptom and as favouring recovery. In many fevers and pyrexia, the desirable crisis or change portending or ushering in convalescence, occurs during sleep. It is our best hope of relief in numerous forms of agonizing headache. Neuralgia is frequently suspended by it during a thrice happy interval; and catarrhal annoyances yield, at least, temporarily to its gentle sway. Malarious fevers are kept at bay, rarely invading the sleeper, even during the day, and very seldom at night; a narcotic which will put the subject profoundly to sleep a little while before the hour of expected attack will usually avert the paroxysm of an intermittent.

It is however equally true, that the state of sleep gives predisposition or ready entrance to certain diseases. We cannot always decide between this apparent tendency on the one hand, and on the other, the nocturnal changes of air and temperature, and also specific periodicity. Croup assails generally, soon after night-fall and asthma often, perhaps from the chilliness of the hour, though I doubt this, for they awaken the subject from his first slumber, even when he has been for hours warmly sheltered and clothed. But it will surprise no one who takes the view I have presented, of the analogies which associate sleep with stupor and coma, to observe the frequency of invasion of cerebral disorders at night—apoplexy, paralysis, epilepsy. Thus also we regard the occasional deaths from cardiac affections, and the horrid suffocating spasms of the victim of hydrothorax. The normal venous fullness of sleep is prompt to become abnormal or inordinate under disturbing contin-

gencies, as an unaccustomed heavy supper, excess in the use of stimulants, depressing fatigue, great mental anxiety or dejection; mere soft distention becomes congestion, sleep merges into stupor, stupor into coma, and coma goes on to paralysis or convulsion. In the histories of Insolation—sun-stroke—more frequent in India than any where else, we find an almost equal number attacked by night, as during the exposure and direct heat of sunshine. The cause probably impresses in the day; the exhaustion of long waking and perhaps the posture assumed determine the moment of development. Longmore informs us that "the invasion occurred promiscuously at every hour of the day and night." Barclay says "the attacks of Insolatio came on generally when the men were in their tents; in several instances during the night, and only in one instance on the line of march. The patient had generally been lying down, often seemingly asleep, or trying to sleep, when the attention of his comrades would be directed to him by his heavy and hurried breathing, and on attempting to rouse him he would be found insensible."

I have mentioned the familiar fact of the relief and removal of many headaches by sleep, but every practitioner meets with instances of contrasted character, in which the malady comes on during sleep, and is aggravated by every slumber, going off during the day. This may be called congestive—as the other is probably irritative or quasi inflammatory, febrile; both are neuralgic. In the former the pulse is slow and full; frequent and quick in the second.

Vertigo, which attends on headache often, is sometimes connected with drowsiness, and is capriciously related to sleep and wakefulness. Handfield Jones contends that it is aptest to occur at the moment when pressure on the brain is lessened. Thus we are giddy when we rise suddenly from stooping, or the recumbent posture, in a swing, or at sea, or when we look from a height, or at objects revolving or moving quickly, at night in darkness and when waking from sleep. "We lean upon our sight," says Mayo, "as on a crutch." This is prettily fanciful, but not explanatory.

The intimate connection between the condition of the nervous system and the Motory function, is familiarly known. We speak of certain states of the locomotive organs as nervous diseases, and

scarcely consider an argument necessary to confirm the assumption, that paralysis and spasm, and convulsion, depend upon morbidity of the sensorial power or the nervous substance, locally or generally. Paralysis, we say, arises from nervous inanition, suspension of nervous action. It is true that if a nerve be cut or ligated, the part it supplies does not move by the impulse of volition, which cannot reach it; but in the paraplegic we often observe, as Marshall Hall first noticed, that there is abundant capacity of motion, and that excitability, irritability, or whatever else we may call it, the vis insita is not diminished, nay, perhaps increased. I well remember a negro boy, æt. 16, completely paralysed from the hips down, incapable of walking, standing or emptying his bladder. If his lower limbs were subjected for a time to the passage of a galvanic current through them, and then the skin of his foot were touched with a sharp point, or even a drop of water made to fall upon his instep, a series of irregular, vehement and sweeping movements of both legs would take place. These were entirely unattended with pain or any discomfort; the boy would lie on his back laughing, highly amused with these independent and uncontrollable kickings, continued for a quarter or half an hour at a time.

When the muscles of voluntary motion contract without or against Volition, we call such contraction Spasm and Convulsion; so also when involuntary muscles contract unduly, either in degree or duration, or under new contingencies of reflex or diastaltic excitement. The two words are unfortunately used promiscuously; the books confound them every where, with sometimes a descriptive adjective to indicate a distinction.

Aitken speaks of convulsion as "universal muscular contraction, usually of paroxysmal or temporary duration"—and of "spasm" as "involuntary convulsive actions of less extent. Of these there are several varieties. (a.) Clonic Spasm consists in rapidly alternating contraction and relaxation, as in subsultus tendinum. (b.) Tonic Spasms, or spastic contractions, consist in contractions having a certain duration, attended with rigidity or hardness of the muscles, as in common cramps and tetanus." But tetanus—his example of Tonic spasm is as universal as any form of convulsion, and some cramps are of short duration. The contraction alone is

spoken of in either case, its extent and duration. I think that there are clear and well marked distinctions between the two phenomena, which I will endeavour to point out. I will not deny their seeming alliance, and it is possible they may occur together, but this is rare. I confess my surprise to find the confusion between them pervading the scientific treatises, both of Rombug and Handfield Jones. Under his order Hypercineses, Rombug has cardiac and gastric spasm, and spinal spasm as he calls Chorea hypothetically; spasms from increased reflex excitability, as he calls Trismus, Tetanus and Hydrophobia also hypothetically; and static spasms from excitement of the Brain, Vertigo and coördinated spasms, rotatory; climbing and salaam movements; and psychical, imitative and epidemic; and under the same general head of spasms from excitement of the brain, epilepsy and epileptic conditions.

Handfield Jones, massing together spasms and convulsions of all forms, and dividing them in the stereotyped way into Clonic and Tonic, attempts a distinction by suggesting that "the latter are more often the result of asthenic excitement than the former." Not so, surely. Convulsions are frequently present in the sinking and exhausted moribund. Tetanus and cramps attend a class of deaths in which asthenia is not, to say the least, the prominent condition; subjects under traumatic irritation and cholera of the briefest duration.

Radcliffe, who ascribes all spasm to "impaired vitality," looks on rigor mortis as the highest type of Spasm; but I am not satisfied that rigor or rigidity should be confounded with spasm; nay, I doubt whether either implies muscular contraction. Rigor mortis does not distort the dead body as do the choleraic cramps. When Dowler struck the biceps, it contracted in the corpse and bent the arm; but the mere rigor of the biceps does not effect this.

The most obvious and prominent distinction between the phenomena is, that spasm is always morbid, always painful, always impairs while it lasts, if it does not totally arrest or abolish the functions of the part which it affects. It implies perverted sensitiveness as well as motility; the smallest muscle, or fibre of a muscle, attacked by cramp gives pain. We know not why this should be so, nor what is the essential difference between this intrusive contraction and the

contraction of the same fibres under volition. Contrast the familiar enjoyment of ordinary or gymnastic exercise with the terrible sufferings of trismus, tetanus, uterine contraction, and, worst of all, the horrid suffocating struggles of Hydrophobia.

Convulsions, on the other hand, though among the most appalling and repulsive symptoms of disease—the rapid alternating contraction and relaxation of opposing muscles—Convulsions are not painful. Nay, Convulsion is not always morbid; it often aids and protects, rather than impedes the functional actions of parts. We have examples of this in sneezing, coughing, yawning. These surely are not painful; and to the question which I have often made of patients, I have always received a negative reply, even as to their worst form—what we call Epilepsy; they are here also attended with a gracious and happy anesthæsia, passing into stupor and sound and refreshing sleep.

How are convulsions produced? What is it that arouses the tumultuous muscular contraction? Brown-Séquard maintains that the convulsing poisons act by "increasing the reflex faculty"—indirectly therefore. Strychnine may poison fatally, however, without convulsion; an animal may be still under its influence, until irritated in some mode, when convulsion or spasm will take place. There are several "nervous centres," which being disturbed, involuntary motion, the phenomena of "turning" often, will occur. Suppose we disturb simultaneously several of these with some poison, acting dynamically, instead of inflicting on them, in our experiments, mechanical injury; and thus release from control many muscles—or, if the effect be excitant, irritate many at the same moment, will not the effect be necessary, a tumultuous series of muscular contractions—convulsion? Among the varieties of convulsion are sneezing, coughing, yawning already mentioned, vomiting, hiccup, eructation, sobbing, subsultus tendinum, chorea, the rigor of ague, hysterical, æsthetic or emotional, the psychical of Rombug and the epileptic or epilepti-form.

We must not omit to notice an obvious distinction between two classes of these phenomena, all alike as they are, involuntary and irrepressible contractions of muscle. Some of them are coördinated reflex movements which result in a definite and, it may be,

desired effect, and are thus widely separated from the category of what we may call emphatically or in a typical sense *true* convulsions, which are disorderly and in the etymological meaning of the word "tumultuous," awkward, clownish, such as chorea and epilepsy, and ague, and subsultus tendinum and that uncontrollable twitching of an eye-lid or a finger which occasionally besets us for an hour or a day, without obvious cause. Nay, I have often seen general convulsion thus ushered in by the shaking of a finger or a limb. Many others are annoyed, like myself, at times by a sudden shock which assails us on the very verge of slumber, when on a hot day, quietly and drowsily disposing ourselves for a "forty-winks nap." It almost forces one to acknowledge the analogy of nervous action with electrical excitement, which this phenomenon closely resembles.

Perhaps no other conditions of the organism exhibit in so marked a manner the transition from physiological to pathological, as these. As Virchow has said of certain cells—"you do not know what they are, unless you know where they come from;" you do not know whether a man is sneezing to get rid of a pinch of snuff, or from the tickling of light or catarrh. One of the coördinate movements is uniformly morbid, purposeless and unaccountable Hiccup. Another is rare—described in books—the salaam convulsion of the East, a regular bowing and swaying of the body. All the other coördinate convulsions are on the middle line—involuntary, irrepressible, but not altogether purposeless, not necessarily injurious, though they may become so by repetition, fatiguing and exhausting, or under morbid causation.

Sneezing may thus uselessly and injuriously persist; I have counted in a medical friend seventy-four explosions in quick succession, and instances are recorded of more than one hundred, of course exceedingly annoying and prostrating. Coughing is plainly needed and beneficial for expectoration; but it also arises sympathetically or unintelligibly in some obscure circuitous way in which it may do much harm, directly, and indirectly. Hiccup is a topic of doubtful discussion. The diaphragm and other respiratory muscles are at first brought into play, and after a while all the abdominal parietes participate in the convulsive action. Usually arising from gastric irritation, its exciting cause is sometimes undiscover-

able. I saw it in one man, otherwise well, last three days; in another seven, preventing sleep and threatening serious evil. I have just heard of a medical friend suffering from laryngeal disease, who has been afflicted for nine days with this tormentor. In 1845 I attended a lady in a miscarriage, with very large loss of blood and troublesome hiccup, supposed to be owing to her depressed and mobile condition; she informs me that she has never passed a day since—now twenty-two years and more—without a vexatious hiccup. Why it should intrude upon and disturb so large a proportion of the moribund from fever, is a problem of difficult solution. It is always an evil omen, as well as a troublesome symptom. Some poisons seem to produce it specifically; every one knows it as a familiar sign of alcoholic intoxication, and I have observed it follow the swallowing of saliva in a tobacco-chewer. Laughing, like sobbing, is a convulsion instinctive, arising from mental emotion, but also connected in some inscrutable manner with the sense of touch, as in tickling. It is as utterly uncontrollable as any other form of morbid muscular contraction. Caperton, who classes it with sobbing and hiccup, says of it: "The muscles of expiration are in convulsive movement more or less violent, and send out the breath in a series of jerks, the glottis being open." In excess it becomes painful, inducing cramp and almost unendurable spasm and soreness. Of all human actions it is most remarkably influenced by sympathy as we call it, imitative propensity. A striking instance of this is offered by Southey in his "Life of John Wesley." This great preacher and eloquent orator was of extremely grave and sedate habits and character. "Be serious," was one of his most frequent and earnest injunctions. "He and his brother Charles," says Southey, "when in the first stage of their religious enthusiasm, used to spend part of the Sabbath in walking in the fields and singing psalms. One Sunday, when they were beginning to set their stave, a sense of the ridiculous came upon Charles, and he burst into loud laughter. 'I asked him,' says John, 'if he was distracted, and I began to be angry—and presently after, to laugh as loud as he. Nor could we posibly refrain, though we were ready to tear ourselves in pieces, but were forced to go home, without singing another line.' Hysterical laughter and that laughter,"

continues Southey, "which is as contagious as the act of yawning, Wesley believed to be the work of the devil."

Chorea, "St. Vitus' Dance," which I would term Paralysis Vacillans; and Tremor, or Paralysis Agitans, so frequent in old age, in all conditions of great feebleness, sometimes in consequence of certain poisons, sometimes annoying young and strong men and women, as it were spontaneously or causelessly, are examples of a combination between partial loss of power, and irregular, involuntary action of the remaining contractile power—of palsy and convulsion. We may place in the same category subsultus tendinum, which, like hiccup, supervenes in the advanced stages of exhausting disease, affecting chiefly the arms and hands.

All forms of Convulsion, Spasm and Paralysis, are alike regarded by Radcliffe and Anstie, as the effects of "lowered vitality." "To 1. Paralysis of the Brain belong delirium, coma. 2. To Paralysis of the Spinal Cord, Spasms, tonic tetanic convulsions, impairment of sensation, formication, pain. 3. To Paralysis the Medulla Oblongata, clonic convulsions, epilepsy, tremors, shudderings, vomiting." Hence it would seem to follow that a more profound morbidity was expressed by spasm, persistent or continuous contraction, than by convulsion, intermittent or alternating contraction.

"Ague, febrile rigor," says Handfield Jones, "must be regarded as a kind of minor Convulsion," and Paget refers to instances in which this sub or minor character disappeared; cases, to use his words, "in which tetanic or epileptiform seizures took the place of rigors." Similar rigor or convulsion sometimes attends the introduction of a catheter into a sensitive urethra; the descent of a renal or biliary calculus along the ureter or ductus choledochus, and the formation of pus or supervention of pyæmia. Jones regards the phenomenon as "an example of the generation of spasm and paralysis by the same cause"—concurrently. This is another instance of the confused promiscuous employment of the word spasm for convulsion. It is easy to discriminate. The rigor is truly convulsive; it is not painful. The sensation and movement are precisely similar to the natural, normal shivering from cold in health. In malarious and other fevers—with the exception of hectic, he supposes, "that the rigor depends on the action of the

poison producing them on the spinal cord, throwing it into a state of undue excitability, so that the nerves issuing from it, keep the muscles in a state of clonic contraction." He ascribes "the rigors of pyæmia and of suppurating foci to the action of contaminated blood on the nervous centres with similar results." "On the other hand," he says, "those of hectic fever are probably dependent on nervous exhaustion, the centres falling into a state analogous to that existing in Chorea." But the rigors of all fevers, Hectic, Periodical and Catarrhal, are undistinguishably alike.

Some are disposed, with Billroth, to attribute the rigor of fever to the rapid increase of the temperature of the blood, so much dwelt on of late as its chief characteristic; but we meet with rigors often where no fever exists; we shiver with cold; we tremble with fear, and shake in the same way on the passage of a catheter. Fevers often supervene too, without any cold stage at all. I confess myself altogether unsatisfied with any of the explanations offered, and very anxious to find better.

Nor have we yet any clear idea of the relation of nervous influence to muscular contraction. Radcliffe's theory, formally alluded to, obtains more consideration now than it seemed at first entitled to.—"Muscle left to itself, is kept in a state of relaxation by its natural electricity; it passes into contraction when the inherent attractive force of the muscular molecules for each other is, for whatever reason, no longer antagonized by that electrical action;" "muscular contraction is ordinarily brought about in this way; the natural electricity which antagonizes contraction, is extinguished for the moment by the instantaneous electrical currents of high tension (analogous to the discharge of the torpedo) which are developed when muscle or motor nerve passes from the state of inaction into that of action." To these positions it is forcibly objected, that he makes no discrimination between healthy and diseased movements; they are all produced—sustained voluntary effort, convulsion, spasm, tremor, pain and even post-mortem rigor in the same mode; all depend on vital exhaustion—none on vital stimulation. Denying his postulate of the identity of electric with nervous force I regret his views.

Convulsions, emphatically so called, Epileptic, Hysterical,

Psychical, arise under conditions of the most extensive variety, nay, absolutely contrasted. It is almost universally assumed and admitted, that nervous irritability, excitability, mobility, must be increased by constitutional failure of any kind, and therefore greater of course in weak and debilitated subjects. But I never can regard Disease as a mere simple question of plus and minus; there must always be present some special mode of perversion of faculty or action. It is so here. Many strong men are subject to fits; many weak invalids escape them. If mobility be dependent on debility and results from exhaustion, the methods in which they are brought about tend to determine the results. Hall and Brown-Séquard, and the majority of pathologists, agree that the irritation must ultimately act directly or indirectly upon the spinal cord—that this is the true seat and centre of convulsion. But when an athletic young fellow is seized with an epileptic fit, which soon leaves him, apparently as well as ever, and as strong as average subjects of his age and weight and mode of life, he merely does not seem to be a subject of impaired spinal vitality. You may find in the phenomena presented proofs of mobility and irritability, but it is a petitio principii to pronounce their essential dependence on debility.

Is there any means of distinguishing between the several varieties of convulsions—have they been separated and classified satisfactorily? We speak of and define Epilepsy, but its nature is obscure; its symptoms greatly diversified, and its seat disputed.—Rombug and H. Jones places it under the head of cerebral diseases, Rombug calling it a spasm from excitement of the brain, and Jones maintaining that "the determining cause of the paroxysm and its special features, is anæmia from spasm of the cerebral vessels."—On the other hand, Hall, Brown-Séquard, Anstie and Radcliffe refer all the phenomena to spinal derangement. "The whole order of spasmodic and convulsive diseases," says Marshall Hall, "belong to the true spinal or excito-motory division of the nervous system." Brown-Séquard fixes it in the spinal cord by every method of expression. Perhaps it is worthy of notice that his language is that of the most unshrinking and frank ontology. In a great many animals, by wounding the spinal marrow, he produced convulsions which he regards and describes as "Epileptic." He tells us that

he "cured about a third of the animals thus experimented on, and then proceeds to say that he "knew when an animal was *cured*, not only by the absence of spontaneous fits, but when I could not produce a fit by giving great pain. So that I am authorized to believe that when a fit was not so produced, it was because epilepsy had ceased to exist." The tendency, predisposition or liability to be convulsed under pain, which he induced by wounding the spinal cord, he thus personifies or embodies as epilepsy.

As to the characteristic phenomena of Epilepsy, it would indeed be a wide canvass, that should contain all the features which are said to characterize it. A fully developed "Fit" must present—drawing of the muscles of the neck to one side, sudden insensibility, noisy and struggling respiration, alternate and violent and involuntary contractions of the muscles of voluntary movement, implying necessarily a fall or harsh precipitation to the ground, rolling upward of the eyes, strabismus, lividity of the face, with rapid contortions of the countenance, opening and shutting of the jaws, thrusting out and withdrawing the tongue, foaming at the mouth, relaxation of sphincters and action of ejaculators; these convulsions continuing from two to fifteen minutes, followed by stillness and stupor, passing into a profound sleep, from which the subject wakes unconscious of what has taken place. Not always, nor diagnostically, but often there occur varied premonitory symptoms—headache, vertigo, throbbing of temples, nausea, strange hallucinations, and odd sensations, as of "a cold creeping vapour, the Epileptic Aura" commencing any where and reaching or progressing toward the head, and just at the moment of falling a peculiar shriek. In many there is erection of the male organ and emission of semen; indeed Hippocrates long ago called the act of ejaculation terminating coitus—the "sunousia" of the Greeks, "a little Epilepsy." Brown-Séquard reminds us, that "after a fracture or luxation of the vertebral column, and in men hanged, erection and emission are not uncommon." He affirms, after Segalas, having proved it by experiment on male guinea-pigs, that "a transverse section of the spinal cord and its excitement by galvanism, produce the same effects." We may ask, in general reference to the supposed analogies which connect animals of different genera and

species, why it is that a decapitated chicken will be convulsed, and as Marshall Hall tells us a decapitated calf, while a man beheaded or guillotined falls dead without such agitation.

Paroxysms of the kind described, among the most appalling manifestations of disease, may occur at long intervals; once or twice only in a life-time, and may be brought on only by rare excitements; or, they may come on frequently, and with indefinite repetition; they may also become regularly periodical at longer or shorter intervals. One of my patients was said, on one lamentable occasion to have had not less than a hundred and twenty-five fits in close succession, separated only by a few moments of quiet sleep or stupor.

Such is full or complete Epilepsy, the "grand mal" of the French, not ill named. But there is an affection known under the same title, undoubtedly allied to the above in some obscure way, yet presenting none of its diagnostic symptoms, if any are properly diagnostic. In this, the minor epilepsy, the "petit mal" there is no shriek, no falling sickness, no convulsion, no coma, no sleep, no special lividity, or flush or paleness, no laceration of the tongue, no foaming at the mouth, no torsion of the neck, no gurgling or struggle in the breathing. The most transient reverie or trance, scarce noticeable, passing off instantly; a start as if about to lose the balance; a vacant stare, with a stolid or foolish look, what the Scotch call (we have no English word for it) "a dwam;" a flash of light or a dark cloud before the eyes—this may be all. Yet this, persisting, growing more marked and enduring, intensified into vertigo, faltering, going backwards, turning round and round, with or without any peculiar sensation or aura, not unfrequently becomes developed at last into the great calamity.

Something resembling this petit mal may be brought on by pressure on the carotid properly managed. Indeed, comparing my own sensations under such pressure with those described by the subjects of that affection, they seem to me nearly, or entirely identical.

No malady is oftener feigned by malingerers; in none have more mistakes been made on both sides. It is surely best to "give the subject the benefit of a doubt." The extreme uncertainty concern-

ing its specific character, its nature and pathology must at once be inferred from the breadth of its vague definition and description and from the infinite number of causes which have been said to occasion it. For my own part, I find it difficult to recognize as the same identical affection, pathologically considered, a musculo-nervous tumult, arising in a child from the irritation of teething or worms, and that which precedes scarlatina or small-pox; in an adult convulsions from the pressure of a tumour in the brain or a spicula of bone pricking the dura mater, and those from the annoyance of a bit of glass in a nerve on the thumb, or the growth of a sesamoid bone on the great toe; convulsions from anæmic poisoning, and those from mere sympathy or imitation, as in an interesting case related by Prof. Flint, in which he makes a positive diagnosis, and pronounces the attack "a distinct epileptic paroxysm." In the same connection he relates from Prof. Dalton's personal observation, an instance of the same kind "in a dog not previously affected with epilepsy, in company with another dog who was subject to it, the latter being seized with an epileptic paroxysm, the former immediately had a similar paroxysm."

Of the convulsions of children, we are told that "their non-recurrence affords the only proof that they are not epileptic." What name shall we give them then? What is the pathological difference? The case I have just referred to as diagnosticated by Prof. Flint himself, to be "a distinct epileptic paroxysm" was non-recurrent. He tells us "she had never before had an attack of epilepsy, nor did another paroxysm take place, the person remaining within my observation for several years afterwards."

Every theoretical—pathological—explanation of the phenomena hitherto offered, is exceedingly incomplete and unsatisfactory. Take Marshall Hall's for instance. The first is alleged to be a spasm or contraction of the muscles of the neck; this obstructs the return of blood from the head; coincidently or consequently, spasm of the glottis takes place, producing suffocation, and followed by convulsion of the trunk and limbs. Now there are at least three points unaccounted for. 1. We know not why the muscles of the neck have contracted and drawn the head to one side. We must with Brown-Séquard, presuppose the unknown something or condition,

which we call Epilepsy, to show any reason why the spasm should happen. 2. Equally causeless seems the laryngeal spasm. 3. No attempt is made to point out why the suffocation or the venous turgescence in the head should give rise to convulsions. We have them without either, as where there is a tube in the larynx, and in a pale anæmic patient, and in hysteric and psychical attacks. They do not belong to the history of Apoplexy or of Croup. Next let us consider Todd's views, accepted as at least probable by Flint and so many other recent pathologists. "He attributes the malady to an abnormal development of nervous force, which manifests itself in the epileptic paroxysm, as a leyden jar when charged with electricity to a certain state of tension gets rid of the disturbance (?) by the disruptive discharge. This undue force he attributes to the accumulation of some material in the blood, which acting on the brain as a poison, excites the disruptive discharge, leaving the nervous system free from disturbance, until a fresh accumulation excites a new paroxysm." (Flint, in loco.) This may be admitted as accounting for toxic convulsions in an emphatic sense, those connected with renal disease or paruria, the exanthematous and those following the administration of known poisons, Strychnine, Datura-Stramonium, &c.; but surely it will not apply to Brown-Séquard's traumatic epilepsies, nor those from sexual excitement, sudden emotion, irritation or sympathy. These humoral doctrines, however plausible, and containing doubtless an element of important truth, are very partial and limited in their application.

Handfield Jones argues on the other hand, that "the effective causes of Epilepsy, are mainly dynamic, generating no poisonous matter." Copland endorses Esquirol's statement, that "fits of passion, distress of mind, and venereal excesses hold the next rank to terror "in exciting the disease." In this connection, Maisonneuve's cases, so often referred to, are highly interesting. "Eighteen sailors, having saved themselves on a rock, by swimming away from the enemy, were for several days exposed to great privation and severe cold; four weeks after they had been received into hospital, they were seized with epileptic attacks, before and after which they suffered violent pains in the right hypochondrium. When ten months had past, six were dead; eighteen months later eight more,

only four surviving." (Rombug, in loco.) But we are still at a loss to know how, and by what modification of their impression any of these causes determine convulsion.

What is the condition of the brain and nervous system just before and at the invasion of the paroxysm—the "causa sine qua non?" We shall be driven, I fear, with Brown-Séquard to the ontological conclusion that unless "Epilepsy" be present, materially or metaphorically, virtually or physically, the convulsions will not follow either the fright, or grief, or anger, or pain, or heat, or cold, or pleasure, or food, or drink. "Copland's long list of premonitory symptoms," says Jones, "may be summed up as indicating, all of them, the abnormal irritability or incitability, associated with a varying blood-flow, which may or may not be in excess." The sudden and complete insensibility of the "Grand Mal," the giddiness and brief unconsciousness of the "petit mal" seem to him capable of being explained only "by a suddenly induced anæmia of the hemispheres, and the convulsions are consequences of the same state of the medulla oblongata and the meso-cephalon. That the cerebral anæmia is not the result of mere syncope, we are sure. There seems then nothing left but to *assume* that a sudden constriction of the cerebral arteries occurs." Thus we have the elephant adroitly placed on the back of the tortoise. But whence the initial movement; what causes or brings about the assumed indispensable spasm of the arteries? Are arteries liable to spasm?

Our author intimates that other forms of Convulsion may arise from "direct cerebral irritation, but these are epileptiform, not true epilepsy." And again, "Epileptiform Convulsions may be brought on also by arterial spasm, acting without the previous abnormal state of the encephalon," of which he gives as example, "the Malarious Epilepsy" of Mackay, Payne, and Lowe. Ingenious as are these suggestions of Jones, they are by no means satisfactory. I would add to the train of connected contingencies, one which he has overlooked. When anæmia takes place, as he points out from spasm of the vessels supplying blood to the encephalon, there must ensue instantly a correlative fullness of the venous sinuses and trunks—from atmospheric pressure and "in horror of a vacuum," thus inducing a condition resembling that of sleep, and indeed

bringing on stupor and coma. "It is a point well worth remarking," says he himself, (933) "that when the arteries are contracted by cold, the capillaries and veins are often filled with venous blood."

This state of things is surely very different from the syncopic character of the unconsciousness from mere anæmia. Brown-Séquard recognizes this difference distinctly enough. "The loss of consciousness," he says, "depends altogether, in the beginning of the attack, on the contraction of the blood-vessels of the cerebral lobes, producing in these parts of the brain, a state of syncope." So positive is he on this point, that, like his illustrious predecessor, Marshall Hall, he ventures to recommend therapeutical measures of the most heroic character suggested by his theoretical dogma. As Marshall Hall advised laryngotomy to arrest the morbid movement at an early step, so Brown-Séquard proposes a method of striking out a link in the evil chain farther onward.—"The loss of consciousness, which occurs in the petit mal" he assures us, "may be avoided altogether by the extirpation of an inch or an inch and a half of the cervical sympathetic nerve. The teachings of physiology, and pathology and particularly the results of my experiments on animals *rendered epileptic*, conclusively show that there can be no chance for a loss of consciousness after this operation has been performed. If surgery should be bold enough to divide this nerve, (which perhaps may be before long) a great advance might be made in the treatment of Epilepsy." We know that tracheotomy has not always succeeded in the prevention of convulsions, and that epileptic paroxysms have taken place when the larynx has been tubed and open. Should Brown-Séquard's proposed excision of nerve be equally partial in effect, humanity will lose rather than gain by his suggestion; the total unconsciousness of the afflicted patient throughout the horrible tumults which agitate his frame, forms the only feature of the shocking scene, upon which the mind can bear to dwell.

Where shall we class the convulsions which precede death from hæmorrhage? Hall regarded them as proving the exclusively spinal relations of the muscular agitation because they occurred, equally, when the animal was decapitated. I have twice witnessed strong convulsions following the use of the lancet in subjects not

epileptic, bled to relieve the symptoms of violent determination to the head. There was no repetition of the attack in either case; both were adults beyond middle age; one was a man, the other a woman. Where shall we arrange the Eclampsia of the parturient woman? Convulsions are not more likely to supervene during the labour of an epileptic patient, we are told, than of a woman not epileptic. On this point, I entertain some doubt; but I agree with those who maintain that an attack of puerperal convulsions does not seem to generate a tendency to recurrence, or lay the foundation for future epileptic seizures. Marshall Hall, who regards this as resembling the epileptic convulsion, offers a vague diagnosis, and tells us that "it is preceded by a hissing respiration. It is attended with great danger; the coma induced by it is very deep, and the cerebrum obviously much affected."

But epilepsy is rarely fatal directly. Now if we read over the bills of mortality everywhere published, we shall find that they always record large numbers of deaths, set down to "convulsions." In a valuable table of mortuary statistics for the City of New York, for thirteen years, "Convulsions" stand second on the list of causes of death, "Consumption" being of course first—37.038; Convulsions 23.063. As it is very rare to see a death from typical epilepsy, these convulsions must have been of different character. Indeed, a neat and precise diagnosis of epilepsy would not necessarily include convulsions, whether with Brown-Séquard we regard it as a morbid state underlying and giving rise to the tendency to convulsion, or with pathologists generally look upon the petit mal as one of its forms.

On the whole, I am disposed to consider Convulsion as a symptom merely, not a distinct disease in any of its forms—Epilepsy, Hysteria, or any other. It may be characteristic as in Chorea, whose existence we can scarcely imagine without it, but is generally insignificant. It is a forerunner of death, familiarly, but I hardly think it ever the cause of death. Like hiccup and subsultus tendinum, general convulsion is often the immediate precursor of dissolution in a great number and diversity of maladies. As an unmeaning term, then, I would have it struck out of our register and bills of mortality.

I shall not presume to enter into any intimate description of the Hysterical Convulsion. Nothing can be more obscure, more capricious, more difficult to comprehend, more vague in diagnostic description. If not exclusively a feminine affection, it is misnamed; it certainly betrays almost uniformly its sexual origin and connection. Except the general physical hyperæsthesia and moral mobility and excitability, there are no premonitory conditions. The paroxysm comes on with elation of spirits or depression, with tears or laughter, with anger or tenderness; there is constriction about the throat—globus hystericus, the passion of poor old Lear—yawning, hiccup, pain at the epigastrium, shivering, chattering of the teeth and general convulsion. This lasts much longer, for the most part, than the epileptic, and is often attended with hissing respiration. The tongue is never, so far as I have seen, protruded or bitten. Tears frequently stream from the eyes, which are red and suffused, and often turned up. After a time—five to fifteen minutes or more—the fit terminates abruptly, sometimes with sobbing, sometimes in sullen silence, rarely in coma or sleep. It has, however, been well ranked as the chief of the mimoses, putting on the appearance of apoplexy, epilepsy and catalepsy. Both Hysteria and Catalepsy, like Trance, Ecstacy and Somnambulism, are conditions of the nervous system, readily brought on by mesmeric manipulations. It would require a volume to discuss them in any detail.

One of the most characteristic phenomena of the hysteric paroxysm, almost, if not absolutely diagnostic when it occurs, yet, not diagnostic or not absolutely uniform, is the flatulent distention, so annoying, both of the stomach and intestines. I have seen the stomach so enormously filled with flatus as to press up the diaphragm and push the heart over diagonally towards the right shoulder with intense dyspnœa and much pain. It is probably dependent upon paralysis of the muscular coat of the great organ of digestion, and of the smaller bowels.

Anæmia and other debilitating causes are alleged to predispose to hysteria; all sexual irregularities excite it. No known alteration in the brain or spinal cord belongs to its history. Yet its frequently repeated occurrence always presents a degree of danger

of the supervention of insanity, imbecility or epilepsy. From the latter it is strongly contradistinguished in typical cases by its marked hyperæsthesia; while epileptics are unconscious from the invasion, in hysteria the perceptive powers are never abolished, even during violent attacks; stimulants and irritants continue to make their impression on the sensitive nerves; the patient in the fit still starts when a loud noise is made, usually hears voices about her, and shrinks from light.

It is not an easy matter to fix the pathological place of Catalepsy. It is not properly either a convulsion or a spasm—the muscles seem simply rigid, yet they do not strongly resist efforts upon them to make either flexion or extension. Its alliances with other nervous affections, are uncertain and obscure; closer, I think, with hysteria than any other; I once saw it associated apparently with epilepsy. Handfield Jones calls it "a disorder intermediate between epilepsy and tetanus, with both which it has affinities. It resembles much (he says) the variety of epilepsy termed tetanic." But in tetanus the muscular contraction—a true spasm—is extremely painful. All cramp, the same author tells us, even the cramp of the swimmer, brought on by exertion or cold, is a small tetanus. We know that all cramps are painful. The rigidity of catalepsy is not painful, the consciousness not being always impaired. In cases quoted by him, consciousness was but partially abolished, and pain is not mentioned.

In Chorea, I have long taught that we have a mingled condition; the phenomena "partaking as much," to use the language of Jones, "of undue mobility or convulsion, as of paralysis," and Rombug asserts that "convulsions of epileptic character, often complicate the Chorea of pregnant women."

In the attempt to locate the direct or proximate cause of these dynamic disorders, Handfield Jones maintains that "much depends on the group of nervous centres, most readily affected with morbid action. If it be the spinal cord, we have tetanus; if the medulla oblongata and adjacent superior region, epilepsy; if the meso-cephalon alone, we have so-called, hysteria; if the hemispheres alone, we have the 'petit mal,' or apoplectiform cerebral congestion."

I will conclude with a brief notice of what has been called by

Rombug "Psychical Convulsion," I know no better name for it, Emotional, Sympathetic, Religious, Political, the true Morbus Comitialis. We have historical records of it in ancient times, of exceeding interest. It has been affirmed that the Priestesses of the old Pagan oracles were intoxicated by the fumes of certain volatile narcotics, and such may have been the fact. But the supposition is by no means necessary for the explanation of the incidents that took place. The mind itself is entirely capable of producing the state of trance described, with or without convulsions, by its own vehement introverted working. We know, concerning a popular writer of this City (Philadelphia), that, after having become familiar, as a very susceptible subject, with the condition brought on by mesmeric manipulation, he could, in solitude reproduce in himself, the same state, mental and physical, at pleasure. I once saw harsh convulsions occasioned in a healthy and intelligent gentleman, of fully ordinary firmness and strength of character, by an abortive attempt on the part of a mesmerist to put him to sleep; and I am well acquainted with a distinguished authoress, who carried about with her a charmed or magnetized gold pencil-case, by intently gazing on which, she could bring on a convulsion of her whole frame, very unpleasant to witness.

It would seem, indeed, that all the forms of convulsions, vaguely described, may be excited by sympathy and imitation; it is the peculiarity of that of which I am now speaking that it has no other source. It is not connected with any defined mode of predisposition. I have not observed that anæmious or hysterical women are specially susceptible of it, nor are the weak more liable than the strong. As in ancient times, religion and politics were the chief emotional excitants of the race, so they are now. But now we rarely or never meet with any such results of political excitement; our political faith is not earnest enough; our political zeal, though fiery, is not sufficiently sincere; we agitate chiefly for party predominance and selfish purposes, and our newspapers afford an outlet to the more irrepressible. The morbid comitialis of the classical writers—usually, but I think erroneously referred to as epilepsy—was met with, familiarly we are told, during the heated meetings of political assemblies. Now we have a morbus comi-

tialis, but it is emphatically pietistic or religious, and rarely met with outside of two well-known sects, who cultivate and favour emotional devoutness. History records many details of this affection, among them none however more strange than the wonderful sufferings and miraculous capacities of endurance of "the convulsionaries of St. Medard."

I formerly took an especial interest in the manifestations of this nature in our own country, then far more common than they are now, and obtained the opportunity of examining a large number of cases. Under the eloquence of a gifted preacher, I have seen men, women and children fall suddenly; some collapsing, as in syncope, some passive as in apoplexy, and some thrown down violently, with fierce cries and contortions, bruising themselves, hurting those with whom they came into collision, and exciting a strength surprising to all who attempted to restrain them. "At the sermons of St. Vincente Ferrer," says his biographer, "the audience were all tears, groans, exclamations, faintings and strange symptoms; trembling, as in agues, struck speechless and immovable as if they were statues."

Between thirty and forty years ago, these forms of religious excitement became, so to speak, epidemic, spreading widely over the Western and Southern States. "The Kentucky Jerks," as they were called, though probably commencing in East Tennessee, originally rooted in pietistic emotion, came at last to affect great masses by mere attention, and a sort of sympathy, difficult to appreciate; for it did not involve any community of sentiment or interest, but spread, like laughter and yawning, involuntarily and unexpectedly, seizing young and old, males and females, the good and bad, the indifferent and the reluctant alike. One of the noted politicians of the day, frequented the meetings where these phenomena were oftenest seen, and took notes for a history of their occurrence. But he was forced to desist, from finding that he was becoming unable to write; his arms and hands being attacked with irregular and unwilling movements beyond his control, and he was glad to escape from the agitated crowd. A venerable pastor of a Presbyterian Church, in which all such exhibitions are held in abhorrence, was denouncing in his pulpit with scorn, these "phys-

ical exercises," as delusions of the devil, when to the amazement and consternation of his audience, and his own unspeakable horror, he was seized violently with the Jerks ! One of his elders, a robust and self-willed individual, was profoundly scandalized at this event, and indulged in harsh comments upon the weakness of his unfortunate minister. The very next Sunday, however, he himself was attacked in the most humiliating manner, while walking up the aisle, in full view of the congregation. For many years after, he continued subject to these fits, of which he was so much ashamed, that if he could at any time anticipate their invasion, he would retire to the solitude of the forest, there to suffer without a witness.

I have before me a simple and graphic history from a young and intelligent preacher, of his encounter with this epidemic, and the great embarrassment it caused him. The "exercises" were curiously diversified; by no means confined to jerking or mere muscular convulsion, the subject making strange noises, barking like a dog or a squirrel, mewing, &c. None, so far as I can learn, were fatally affected, or suffered any greater injury than the annoyance of repetition. Some seemed even to take pleasure in the "exercises," and sought the excitement that renewed them. As in hysteria there was obviously in many of the female patients, a mingled, perhaps unconscious, action of volition. Not a few of the men, and chiefly among those who had previously denounced the weakness, and were afterwards overcome by it, were full of disgust, shame and self-reproach. I was present when a celebrated black preacher, an elève of the missionary Blackburn, fell prostrate in the midst of a sermon, none of his hearers being affected. He had become, by repetition, very liable to such attacks. Throughout the whole strange and painful scene, he retained his consciousness, and at intervals was able to speak distinctly. He was violently agitated, and being a large and strong man, it was a difficult task to those who held him, to prevent his injuring himself by the convulsive flexion and extension of his powerful limbs; and I could not help being touched with his humble apologies to them for the shocks and hurts he was inflicting upon them.

An amusing account of its irresistible domination, comes to us from a gay young fellow, who became its astonished and most

unwilling victim. He was the son of an elder, and to avoid going to meeting on a certain Sunday, he feigned to be sick and was left at home alone. He lay in bed chuckling and congratulating himself, and gradually bent his thoughts on his family and their ride, reached with them in his wandering thought, the camp-ground, saw the multitude assemble, "the services" commence, and at last "the exercises," as they were called, in full operation. Of course, one young woman was especially before his mind's eye, and he now fancied her under the complete influence of the familiar excitement, and in the agitation of a paroxysm. "Now!" he exclaimed to himself, with strong sympathetic interest; and in a moment he was himself taken, hurled out of bed, and jerked hither and thither, all round the room, up against the wall, and in every direction. He found himself perfectly unmanageable. He had heard that praying would cause the Jerks to cease. He tried it, and the desired effect followed immediately. After panting a little, he felt no more effect from it this time, "than a person does after hiccup." At his ease, he allowed his imagination to run riot again, and again the same scene of tumult and helplessness was acted over, only rather more vehemently. The efficacious remedy was again resorted to with success; and now thoroughly frightened, he rose, dressed himself and sauntered about the premises. I will not pursue the story further in detail; suffice it to say, that twice more he was assailed with increasing force and diminished capacity of endurance, until he was perfectly reduced to humble and prayerful submission.

It is quite clear that the malady did not extend itself exclusively by means of religious excitement. From a respected correspondent, residing in a community where it became familiar, I have the following statement: "The first of our cases originated in a church, where there prevailed a vociferous mode of worship, with much devout enthusiasm, and I did not hesitate to attribute all the attacks to religious excitement. But that opinion has been shaken by the fact that the diseae has attacked persons, who never attended that church, and who feel no interest in the cause of religion, or seem at all concerned for the safety of their souls. Nor does sympathy seem to account satisfactorily for the wide-spreading of the affection.

I recollect the circumstance of an old man being attacked while under the influence of spirits, and when perfectly alone on his way from a grog-shop. In all the cases, the same muscles are alike affected, chiefly those of the neck. There was usually a paroxysm every ten minutes, during which the head was thrown backwards and forwards with astonishing rapidity." This gentleman pronounces it an Epidemic Chorea.

Another medical friend, writing to me, says that his patients were chiefly females, only two males being among them. The convulsions began by contraction of the muscles of the neck, were extended to the abdominal muscles, and then became general. The pulse was usually slow—from 55 to 60 in the minute, and in some intermittent. Embarrassed to account for its broad sway over the country, he declares it "contagious."

A third, who has studied it closely and attentively informs me that "a very singular feature of it in his neighbourhood is, that it most commonly attacks strong, corpulent men, rarely assailing weak women or indeed women of any constitution. The symptoms which usher it in are as follows: A sense of chilliness is felt throughout the whole frame, with a partial or entire loss of vision, great restlessness and a sensation of choking or smothering; after a time the muscles begin to contract involuntarily, the subject loses his reason, throws himself often on his hands and knees, in the attitude of a dog; his eyes are turned upward, and he commences to utter the peculiar noise, which has occasioned it to be spoken of as "religious barking and mewing;" the sounds indeed are in many instances, as much like the barking of a dog, as the modification of the human voice will admit. Thus he remains, unless removed by friends, until he is exhausted, when he falls to the ground, convulsed in the most violent manner. Many have been attacked who were not at all under the influence of religious excitement; and some assailed while merely listening to accounts of its mode of occurrence. In some it persists for years intermittently."

We have entered here upon the vast field of Psychical Pathology, in which the landmarks are indistinct, and the course of inquiry difficult and uncertain. We have neither time nor space, at present, to pursue a discussion of such obscurity and interest, and must post-

pone them until some future period, when we may hope to attain a clearer insight, to get possession of more available materials, and to have become better prepared to undertake a task so arduous.

ART. II.—RESECTIONS OF THE SHOULDER AND ELBOW-JOINTS.—Collated by H. L. THOMAS, M. D., Richmond, Va.

The records of the Surgeon General's office, furnish 498 cases of resection of the above joints, viz : 306 of the shoulder, and 192 of the elbow. As far as the data would permit they have been rendered comprehensible by the following table :

SHOULDER-JOINT.					ELBOW-JOINT.				
		Result.				Result.			
Date of Operation.	No. of Cases.	Recoveries.	Deaths.	Not given.	No. of Cases.	Recoveries.	Deaths.	Not given.	REMARKS.
Within 24 hours.	225	88	52	85	122	64	17	41	The cases operated on after the lapse of 60 days are respectively—2 1-2, 3, 4, 5, and 10 months for the shoulder cases, & 8 months for the elbow case.
From 1 to 10 days.	22	12	4	6	17	10	2	5	
10 to 20 "	15	7	5	3	17	9	3	5	
20 to 30 "	10	5	2	3	12	8	1	3	
30 to 40 "	4	2	1	1	3	3	0	0	
40 to 60 "	3	1	2	0	1	1	0	0	
Over 60 "	5	4	1	0	1	0	1	0	
Not given.	22	6	6	10	19	11	1	7	
Total.....	306	125	73	180	192	106	25	61	

The above collation was made in 1865, for the April number (for that year) of the " Confederate States Medical and Surgical Journal." That number never appeared, consequently the remarks intended to accompany it are suppressed, as being out of date, perhaps out of place.

ART. III.—EMMET'S OPERATION FOR PROCIDENTIA UTERI. By JAMES DUNN, M. D., Petersburg, Va.

The subject of the operation, R. R., coloured, aged fifty years; the mother of two children ; otherwise healthy ; suffered twenty

years ago, with slight, for the last ten years, with complete procidentia.

The tumour, being of the size of a large orange, was of the anterior wall of the vagina, and included the bladder. From long exposure the mucous membrane had assumed the appearance of skin, very dry, and studded with dark spots from pigmentary deposits.

Sometime since, after a long attack of gastric derangement, it was found that the anterior wall of the vagina had returned to its proper position, and that the posterior protruded to a greater extent even than the anterior had previously. As a natural result, the anterior wall had recovered its normal character, save the pigmentary deposits, which still remained. The parts were returned with the aid of Sims's speculum. An examination a few days after, showed that the anterior wall had again been extruded. It was, therefore, determined to operate at once before the mucous surface could be again transformed by exposure.

Sims's speculum was employed as more fully exposing the parts, and giving the greatest amount of space for manipulating. To retain the uterus in position, and at the same time, shove up the vagina to form the pouch, the borders of which were to be united, producing the necessary narrowing, a No. 8 iron wire was used, having attached to one end a circle (three-quarter inch diameter) of sheet lead one-fourth of an inch wide, and bent, from the same end, into a half circle of four inches diameter.

The patient was put under chloroform; the speculum inserted, and the wire adjusted, so that the circle embraced the cervix uteri, and the half-circle forced up the wall of the vagina, which enveloped and met in two ridges over it, on the mesial line. Along these two ridges, with a pair of curved scissors, the mucous membrane was quietly clipped off for about quarter of an inch. The wire and speculum were then withdrawn, and the posterior ends of these incisions were united by another directly in front of the cervix. This formed the base of an isosceles triangle; the apex of which, at the meatus urinarius, was then completed. It was before found impracticable, possibly from need of scissors with a proper curve.

The silver sutures were now introduced; the first, nearest the

cervix, as nearly continuously as possible, and within the denuded part; the second, also in the base and within the denuded portion. The third suture was, in the triangle proper, introduced a line or two without the abraded part, passed under it, brought out at the same distance on the inner side, made to skip the sound tissue, again entered from within, it made its exit at a corresponding point on the opposite side of the triangle, about three lines from the base. A fourth was similarly arranged. A loop being made of one end of the sutures passed, the other end was put through it in each case, to avoid confusion in twisting. The free ends of the sutures were held by the assistant in charge of the speculum. Here the staff was replaced, the handle-end passed between the ties of the two first sutures, and entirely under the two last (third and fourth.) The ring embraced the cervix, the half-circle again returning the anterior wall. The speculum being at the same time introduced, the fifth, sixth, seventh, &c., sutures were passed after the manner of the third and fourth.

A space, about three-quarter inch in length, was not sutured, as through it the staff had to be withdrawn. This was readily accomplished, after the lead ring had been cut off close to its staff attachments by means of a pair of ordinary bone forceps. Three sutures were then added which would serve to close the apex of the triangle. Commencing with the last of those inserted, their ends were passed through a Coghill's twister, (which should be firmly drawn on the tissues) twisted and cut off. The whole raw surface was now found to be in accurate apposition, with no puckering save in the portion included in the two last sutures at the base of the triangle. After withdrawing the speculum, the woman was placed comfortably in bed and allowed to recover from the influence of the chloroform.

The subsequent treatment consisted in the use of laudanum, in sufficient quantities to keep the bowels quiet; syringing with warm water, and drawing off the urine, twice a day. No bad effects whatever followed the operation and union readily took place.

There was considerable vomiting during the first night after the operation, no doubt from the chloroform, and yet no protrusion of the parts occurred.

Art. IV.—Severe Injury to the Left Kidney and other Abdominal Viscera, Produced by a Fall—Remarkable Recovery. By Chas. W. Chancellor, M. D., of Memphis, Tenn.

A. J. P., a stout, healthy lad, aged ten years, while at play with his companions, mounted the back of a large hog, from which he was thrown into a ditch about two feet deep, with such violence as to cause severe injury to the left kidney and other abdominal viscera.

This occurred on the 19th day of November, at 10 o'clock in the morning. Immediately after the fall he regained his feet and walked about ten steps, when he fell in syncope. He was taken to the residence of his father, near by, and when seen by me, one hour after the fall, was in a state of alarming prostration; extremities cold; lips blanched; uneasy sensation over the epigastric region, but no particular pain complained of. These symptoms were ascribed to a supposed concussion of the solar plexus:—Ordered stimulants internally, and sinapisms to the extremities.—Reäction was soon partially established, but tenderness upon pressure over the left umbilical region discovered itself. With this exception there were no objective indications of internal injury. Stimulants to be continued *pro re nata*. At 8 o'clock P. M., there were well marked indications of returning collapse, and soon the extremities became cold, the countenance blanched and listless; pulse thready and indistinct. There was now a circumscribed tympanitic distention of the epigastric region, which pressed upon the diaphragm and caused painful dyspnœa. There was also urgent thirst, which gave rise to apprehensions of internal hæmorrhage. Decubitus supine. Ordered stimulants every fifteen minutes, and an injection of Ol. Terebinth; warm. Turpentine fomentations to be applied over the abdomen. 10 o'clock P. M.—Has passed injection with considerable flatus, but no fœcal matter; ejects from the mouth a thin yellow fluid. Continue stimulants and fomentations.

20th, 8 o'clock A. M.—Has passed about one pint of bloody urine. Bowels unmoved; respiration hurried; does not complain

of pain except under pressure; pulse better volume and less frequent; extremities warm; abdomen more distended; acute pain elicited by pressure over the left kidney. Ordered enema of castor oil and spirits of turpentine, to be repeated, if not followed by fœcal dejection, in three hours. 12 o'clock.—Pulse 140; tongue moist and thickly coated; indications of sordes upon the teeth; thirst not so urgent; abdomen uniformly and greatly distended—very tense and exquisitely tender—cries out upon the slightest pressure or motion, even the weight of a sheet occasions distress; countenance dull and dejected; skin doughy; considerable delirium. Has passed another pint of bloody urine and coagula. Ordered fomentations of warm turpentine over the left kidney, and one drop of Fleming's Tincture of Aconite, internally, every two hours.—6 o'clock P. M.—Pulse 132 beats to the minute; surface dry and parched; expectoration of yellow fluid more copious; passed half pint of clear urine, which was followed by a slight discharge of blood from the bladder; delirium continues, with lucid intervals; indications of much suffering; abdomen more distended and tense but less resonant under percussion; continue aconite, as an arterial sedative.

21st, 7 o'clock.—Has passed urine three times through the night, unmingled with blood. No dejections from the bowels; jactitation and moaning; tongue heavily coated; breathing laborious; abdomen distended, hard, tense and tender. Ordered,

℞. Hydg. Submuriat, grs. v.
Ol. Tiglii, gtt. ss.
Mis.—Et. ft. Pil. no. j.
Sig.—To be given at once. Continue aconite.

Three o'clock P. M.—Has had two free dejections from the bowels and passed water unmixed with blood. Vomited twice a quantity of the yellow fluid, which has charcterized his expectoration throughout; abdomen less tense and hard but tympanitic; less jactitation; sleeps quietly. Continue aconite every two hours and reäpply turpentine fomentations over the abdomen.

22d.—General condition more favourable. Had two actions of the bowels and passed water through the night; abdomen tympanitic but less distended and tender; breathing less labored; disposed

to play, and says he is "better;" pulse 115; tongue still coated. Give aconite every three hours. 4 o'clock P. M.—Exacerbation of fever; pulse 130 to the minute. Ordered aconite to be given every hour.

23rd.—Manifest improvement; has had a comfortable night, and has taken nourishment; breathing much easier; pulse 96; tongue cleaning; abdomen flaccid. Continue aconite at longer intervals.

From this time, improvement continued to complete convalescence.

ECLECTIC DEPARTMENT.

"Floriferis ut Apes in Saltibus Omnia Limant."—LUCRET.

I.—ENDOSCOPY.—By FRANCIS RICHARD CRUISE, M. D., Dublin.

I believe it will scarcely be denied that one of the most essential characteristics and improvements of modern medicine consists in the *direct exploration of organs* for the elucidation of their physiology and pathology. This tendency to rest our knowledge upon physical rather than rational signs is by no means of recent date, although latterly, especially within the last half century, it has become more obvious and better appreciated. Glancing back over the history of the Profession during that period, we notice how percussion, methodized by Avenbrugger, and popularized by Corvisart, seems but to have paved the way for Laennec's discovery of the immeasurable practical value of auscultation in diseases of the chest. Subsequently other portions of the body, lending themselves to exploration even more freely than the thoracic organs, have come in due course to be objects of interest and research with special observers, who from time to time have devised means and implements for their more satisfactory examination and study. Without delaying upon this point, I may quote, in illustration, the revival by Reaumier of the long-forgotten *speculum uteri;* also the *speculum auris*, originated, I believe, by Newburg; the ophthalmoscope of Helmholts; the laryngoscope of Czermack; and though last, certainly not the least, the endoscope of Désormeaux.

With respect to the endoscope in particular, I may observe that M. Désormeaux, in the introductory chapter of his recent valuable memoir, candidly acknowledges that the idea of an instrument

capable of throwing light into deep cavities, such as the bladder and urinary passages, was not original with him. He accords to M. Segalas the merit of originating the thought, and alludes to his unsuccessful attempt, as well as to the fruitless labours in the same direction of the late Mr. Avery of London, and Dr. Hacken of Riga.

Considering the ability and industry with which M. Désormeaux has prosecuted the subject, it is a matter of surprise to me that important labours of others have escaped his cognizance. At any rate it is quite certain that M. Segalas was not the originator of endoscopy. Barrini of Frankfort invented his "light conductor" about the year 1806; and in 1824 (two years before Segalas' proposal,) your celebrated countryman, Dr. J. D. Fisher of Boston, devised and actually used an instrument identical in principle and similar in construction with that at present recommended by Désormeaux. An ingenious auriscope, which was invented fully thirty years ago by Mr. Jordan of Manchester, resembles it also.

Despite the occasional attention paid to the subject during the last half century, for the most part no practical result appears to have followed, and the fate of the endoscope has heretofore been neglect, ridicule and oblivion. So far as I can discover, M. Désormeaux alone has been a marked exception. He has most indefatigably worked at endoscopy; and to him, undoubtedly, is due the credit of patiently toiling for more than fifteen years, until at last he has accumulated a mass of facts so important and interesting that it is impossible any longer to ignore his labours and the value of this method of investigating and treating disease.

I shall not dwell on the history of my own efforts at endoscopy: suffice it to say that it has been a dream with me since I became a student of medicine, and a pursuit after which I have continually hankered. Years ago I tried to work with an apparatus similar to Désormeaux's, but finding the light indifferent I gave it up in despair, and only of late years resumed the study. Comparatively recently a modification of the illuminating portion of the instrument occurred to me; I forthwith carried it out, and thereby obtained as much light as I required for all practical purposes. Since then I have used the endoscope constantly, and have neglected no opportunity of extending my knowledge of it. Rendered distrustful of success by repeated failures, for months I worked in silence and in private, until I became familiar with its use and manipulation. Then, for the first time, I exhibited it to others. Subsequently, by the kind invitation of medical friends, I examined a variety of cases at many of the Dublin hospitals, and also in private. It is my pleasing duty to acknowledge gratefully the kind-

ness and liberality with which my *confréres* have placed their cases at my disposal, and have thus multiplied the field of my experience.

The endoscope, at its birth, met with but little favour, and for many years was absolutely slighted and passed by. Berrini's instrument was condemned by the medical faculty in Vienna, early in the present century, most especially upon the ground of its deficient illuminating power. Fisher, Segalas, and others who attempted to follow up the study, found no better encouragement awaiting their labours. In fine M. Désormeaux tells us how one of his teachers, unable to deny the reality of the instrument, merely asked him the question—"What use is it?" Yet the answer to that query conveys its whole worth, namely—"It enables us to see parts which, without its aid, are wholly beyond the reach of vision."

Were it needful to illustrate the usefulness of our senses in the diagnosis of disease, I might aptly quote here the apologue of a witty Physician of the olden time, alluded to by D'Alembert. He describes Nature and Disease engaged in mortal combat; a blind man armed with a club—the Physician—comes in to settle the difference. At first he tries to make peace; failing in this, he lays about him at random. If he hits Disease, he slays it; if he hits Nature, he kills the patient. Now I would ask whether the Genius of modern medicine, which in so many instances has stricken the scales from off the eyes of the Physician, and bestowed upon him the mighty gift of vision, has not wrought the miracle of making the blind to see, by enabling him to strike to the point, and no longer at random?

Let us for a moment contrast the predicament of the Physician called upon to treat a malady which it is possible for him to see, and one hidden from his view. For example, let us take a case of diseased eye, and one of diseased urethra. He will not content himself by calling the former an *ophthalmia* without ascertaining what structure is engaged, and wherefore. He will examine the lids, the conjunctiva, the cornea, sclerotic, anterior chamber, lens, and, if needs be, will take his ophthalmoscope and investigate the vitreous humor and retina. It is needless to say how much information he may obtain from this simple inspection, both as to the seat of the disease and as to its nature—whether traumatic, catarrhal, arthritic, syphilitic, scrofulous, or other. His correct diagnosis lays the foundation for a truthful prognosis and rational treatment. What, in contrast, is his position with respect to an ordinary case of gleet? In many, perhaps in most, instances, he can only guess out by uncertain symptoms and unreliable antecedent history, whether the discharge arises from simple catarrh, from chronic inflammation,

from relaxed mucous membrane, from syphilitic ulceration, from herpetic excoriations, from a granular condition of a segment of the canal, from disease of the prostrate, and so on. In his uncertainty his treatment must of necessity be empirical and his prognosis unreliable, because he can neither tell the nature of the disease, whether it be communicable or not, nor can he foresee whether it will be harmless in its results or likely to lay the foundation of organic constriction. The endoscope, however, alters the case materially, and for the better. By its aid the urethra can be seen and minutely examined from its orifice to the neck of the bladder, each single speck of disease ocularly demonstrated, and, if need be, subjected to precise local treatment.

The utility of the endoscope is not, however, confined to the diagnosis and treatment of diseases of the urethra—far otherwise. There is no portion of the human body, into which a straight tube can be introduced, in which it will not be found of service. With it the interior of the bladder may be thoroughly investigated; tumors, ulcerations and sacculi recognized; calculi examined, and information gained as to their size, figure, number, position, whether encysted or loose, and so on. The rectum, beyond the reach of the finger and speculum, can be searched for ulcerations, constrictions, tumors, etc. The cavity of the uterus can be demonstrated; so also the auditory meatus, nasal fossæ, pharynx, larynx and œsophagus. Likewise wounds, especially those suspected to contain foreign bodies, abscesses, the cavity of the ovarian cysts after tapping, and so on. I have been enabled by the endoscope to obtain so clear a view of the interior of the uterus that I am satisfied it will prove most useful for the diagnosis of small polypi, granular and follicular ulcerations, and other affections, which at present are subjects of conjecture rather than positive knowledge.

When first I brought my endoscope under the notice of the Profession, it was looked upon with very little favor. Nearly all doubted its practical utility, and many openly ridiculed it is a toy. The general opinion is now altered. Amongst its advocates and warmest partisans I can enumerate the most eminent members of the profession in various portions of the world, who from day to day are adding to the already ample stock of evidence in favor of its incalculable practical usefulness.—*New Orleans Medical and Surgical Journal.*

II.—SULPHUROUS ACID GAS. By JAMES DEBAR, M. D., Kirkaldy.

In a village which stands upon a steep incline, and where fever had made its appearance, a boy of fourteen was taken with head-

ache, etc., and upon the third day of his illness I was asked to see him. I found him evidently *in* for an attack, but without any prominent symptom demanding special interference. Next day, I was surprised to find him almost comatose, with irregular pulse and some other indications of ominous import. Upon careful investigation of the premises, I discovered in rear of the house that *three* piggeries, *up-hill* of my patient, each contributed to form a small stream of pestilential liquid, which found its way by a back door to a closet within six feet of the boy's bed, and attached to one of these was a dung-hill, the deposit of the refuse of a family in which the epidemic had found a resting-place some weeks previously, and where for weeks afterward the disease lingered. The obvious course was to remove the nuisance, but here the old difficulties about "middens" presented themselves, although, in this case, I am glad to admit that they were all but insuperable. I made a compromise, therefore, that a crucible should be set in the offending closet, and that sulphur should be kept burning therein night and day ; I made the due fulfillment of this promise the condition of my continuing attendance upon the case. With the exception of having his hair cut, cold applications to the head, and a simple laxative, no other treatment was adopted, yet within twelve hours consciousness returned, was never again impaired, and the ordinary stages were rapidly gone through, so that on the twelfth day the convalescent was by the fire-side. The preventive measures were continued for a fortnight thereafter, and the disease spread no farther in the family. Next door, where the process was sneered at, the fever had possession of the premises for three months.

Another case of equal interest has been communicated to me. An elderly man, a master carpenter in the country, had recently returned home from waiting upon two sons and a daughter-in-law, all of whom had died of "typhoid fever." His home is at an inland hamlet, about thirty miles distant from the infected locality, and within a few days of his return he was laid down with fever. A day or two afterwards the medical man was sent for, and he found that, meantime, a female inmate had sickened also. This naturally gave rise to great alarm, the more so that a number of the carpenters who worked there boarded with their employer. "Sulphurous fumigation" was at once resorted to, and perseveringly carried out by an energetic neighbor with the most satisfactory results—viz., speedy recovery of the patients and extinction of the epidemic.

Ephemeral and catarrhal fever are at once cut short by inhaling the "fumes," while their soothing influence in "scarlet fever" encourages both patients and attendants to frequent repetition of the process. In one family where I attended there were five children

under scarlatina at the same time, and the fumigation was given in charge to the father, who was most assiduous in his attention to it. The room was filled almost every hour, and was scarcely ever free from a taint of the disinfectant. The repeatedly observed sedative effect was, in this case, satisfactorily tested; for especially during night, whenever the inmates showed signs of restlessness, my friend gave them an extra dose, with the invariable effect of inducing quiet and sleep.

In this, as in typhoid fever, it has an undoubted power of both mitigating the severity and shortening the duration of the illness. And I have no hesitation in saying, that to its adoption, accompanied by the diligent application of "sulphurous acid" to the "tonsils," both in scarlatina and diphtheria, is due the merit of having rescued several individuals whose general condition otherwise was unpromising in the extreme. And I may add that, although it may be in some measure attributable to good fortune, while I have had no fatal case of scarlatina during the late epidemic, neither have I seen, out of more than twenty cases, a single instance of "secondary complication."

In "diphtheria" my experience has been equally satisfactory.

"Hay fever" has been checked, and at once, by this simple appliance; and several cases of "hospital gangrene" can now be instanced, in which the morbid action was immediately arrested, and this quickly followed by marked change for the better in the condition and appearance of the wound. This last, besides being of itself interesting, afforded an opportunity of testing the comparative merits of "carbolic" and "sulphurous" medication; and, accordingly, it was found that after the former had failed to give the desired relief, S. A. G. was still able to achieve the happiest success over the enemy.

The application of sulphur fumes to the relief of aching bones, as in "gout and rheumatism," has been so fortunate as to revive the old fashioned belief in its virtues, and to establish its title to be considered a trustworthy resource, which, from its simplicity, as equally within the reach of "rich and poor," and can be entrusted to the management of the most innocent domestic.

A gentleman, long a martyr to gout, was threatened some weeks ago with a severe attack. When I saw him the storm was just about to burst, and he was looking forward with horror to the ordeal through which he was about to pass. It just occurred to me that, as sulphur baths had proved useful in such cases elsewhere, why might not we upon this occasion bring the "mountain to the prophet" by improvising a sulphurous vapor bath in the chamber. I accordingly had the room filled with "fumes," and desired that a

set of bed-clothes should be hung up in a dressing-closet, and then to be fumigated for an hour or two until they had become saturated. This was most efficiently carried out; the clothes were spread over the patient, who shortly afterwards fell asleep. He became bathed in perspiration, slept for many hours, and awoke with his acute symptoms greatly mitigated.

In rheumatism likewise, this mode of management has given relief in every case where I have heard of its having been tried, the sedative properties of the agent employed soothing the pain and promoting a tendency to sleep.

I trust that these facts will prove sufficiently definite to my professional brethren to warrant their recommendation of the system to extended trial, being fully persuaded that no one who intelligently and determinedly carries it into practice will ever have cause to regret his having been induced to do so.—*Dublin Medical Press and Circular.*

III.—M. Maisonneuve's Operation for Fistula in Ano. By R. R. Good, M. D., Paris.

On the simplicity of this operation, adopted by M. Maisonneuve, the distinguished surgeon at the *Hotel Dieu*, the improvement of his instrument and the satisfactory results obtained, I wish to say a few words. But, before entering upon the subject, it may not be uninteresting to consider what is generally understood by a *fistula in ano*, the mechanism of its production, as well as an appreciation of the different methods resorted to by surgeons in order to bring about a cicatrization of the fistulous passages in the anal region.

First, what do we understand by a *fistula*, in general terms? It is an abscess which, after being opened, communicates with the external world, or with a cavity, or with both simultaneously, and which does not close itself. There can be many causes which prevent the occlusion of an abscess; and whether here brought about by idiopathic suppuration of the cellular tissue contained in the ischio-rectal fossa, or whether the result of an alteration of the coats of the intestine, it is not my purpose to determine: certain it is that abscesses in this region are very often, and I might say nearly always, followed by a fistula. The reason why the walls of an open abscess in this region do not come in contact, and the consequent tendency to non-cicatrization, find their explanation in the anatomical disposition of the parts. The *levator ani*, taking its fixed insertion around the superior strait of the pelvis on the one hand, and around the inferior extremity of the rectum on the other, tends to draw the

external walls of the abscess outwards and upwards; whereas the external wall being carried inwards by the continued contractions of the annular fibres of the *sphincter ani* muscle, both walls of the abscess are in this manner kept apart, and can not agglutinate or heal, unless the cellular tissue reproduces itself and fills up the void, which occurs very seldom.

Many are the remedies which have been employed, in order to remedy this evil. Of these the most are absolutely useless; others are difficult, and there remains but one which completely fills the necessary indication—I mean the knife—although this is sometimes accompanied by accidents; and it is this danger which M. Maisonneuve proposes to avoid by means of his operation, which is an improvement upon M. Chassaignac's "*écrasement linéaire.*"

I will rapidly pass over the different methods which have been used by surgeons, as M. Maisonneuve is accustomed to recite them in his clinical lectures:

Injections of Iodine, for instance, can only be employed with hope of success when the fistula is located quite a distance from the anus, and situated in that region which M. Richet, in his excellent *Anatomie Médico-Chirurgicale*, calls the inferior recto-pelvic space, with the assistance of pressure from within outwards and from above downwards, effected by plugging the rectum.

Caustics applied directly to the walls of the fistula are not only slow and uncertain remedies, but they subject the patient to long and severe suffering and great loss of tissue. M. Amussat, in order to perfect this method, invented an instrument called the forceps of Amussat, which holds the caustic in direct contact with the walls of the fistula. I believe the use of this instrument is now abandoned altogether.

Ligatures.—This is certainly the method which has given the most satisfactory results, and is perhaps the oldest, as we find mention of it in the works of Hippocrates, who is said to have used a waxed thread for the purpose. During the last century this mode of operating was again taken up by Foubert and more recently by M. Mayor, of Lausanne, who employs a knot which he tightens at liberty, until the parts are severed.

Incisions.—"Every *fistula in ano*," says Professor Velpeau, "necessitates the application of the knife." We recognize in these words the great and practical mind of the illustrious surgeon of La Charité. It is the incision extending from the internal wall of the fistula to, and comprising the rectum, which alone can annihilate the traction of the annular fibres of the *sphincter ani* muscle and permit a perfect juxtaposition and consequent cicatrization of the

parts. This operation, however, is not without danger, as I will endeavour to prove in describing that of M. Maisonneuve.

Instead of using M. Chassaignac's *écraseur*, an instrument well known to every surgeon, a simple thread of wire is substituted for the chain; and herein we have the great advantage over the old instrument. For while the latter, on account of the interstices existing between each link, saws and cuts the tissues unequally, thereby sometimes exposing the parts to hæmorrhage, the *écraseur* of M. Maisonneuve takes in and crushes with equal force and pressure all the tissues which are destined to be divided; and the wound, instead of having a torn and lacerated appearance, looks smooth and perfectly closed, so to speak. The articulated chain of Chassaignac is in its vertical aspect moveable, even too much so; laterally, however, it is absolutely inflexible, and hence the great difficulty of introducing it into sinuous passages. On the other hand, the simple thread of wire may be bent and moulded into any shape, and directed at will wherever the hand of the surgeon may see proper to place it. This with the chain is impossible, especially if the internal orifice of the fistula is situated very high up. The superiority of the instrument is easily demonstrated, and no one can fail to see the importance of the following facts: There is equal pressure without laceration, and great facility of management for the surgeon. In operations in a cavity, as for the amputation of the neck of the uterus for instance, though I am departing a little from the original subject, nothing is more easy than to give to the wire the shape and size of the tumour which it is to seize. This is something for which again the chain, on account of its lateral rigidity, can only be employed with difficulty.

The operative process of M. Maisonneuve is as follows: The patient is placed upon the side in which the fistula is located, while an assistant elevates the opposite buttock. One of the extremities of the wire is passed into the external orifice of the fistula, and brought out with the finger of the surgeon, previously introduced by the rectum (the grooved director is scarcely ever necessary). This done, the two extremities of the wire are then attached to the two branches of the *écraseur*, and by a rapid turning of the screw the tissues are quickly bound and crushed by pressure. This operation is of the simplest nature, and since I have followed the clinics of the skillful surgeon of the *Hotel Dieu*, I have seen him perform it in an incredibly short time.

Let me sum up the advantages of this operation: (1) The tissues are crushed without laceration; consequently the orifices of vessels are not left open, and the danger of hæmorrhage, phlebitis and purulent infection is avoided. These evils often occur when the knife

or chain is used, from the rapid absorption by the open mouths of the hæmorrhoidal plexus of veins. (2) As in all contused wounds cicatrization takes place slowly, the surgeon is not compelled to pay such constant attention to his patient as when the operation has been performed with the knife; nor is it necessary to keep the wound open with tents, to prevent a too rapid union.

The dressing simply consists of charpie saturated in a solution of phenic acid (one part to one hundred), repeated once daily. The instrument is small, convenient and ready of application. For larger applications, such as for the extirpation of tumours of large size, a plaited cord of wire is substituted for the single strand, which retains its flexibility with its increase of strength.—*New Orleans Medical and Surgical Journal.*

Art. IV.—Detection of Lung-Tissue in the Expectoration of Persons Affected with Phthisis.

Dr. Samuel Fenwick gives the results obtained from the examination by the microscope of the expectoration of one hundred real or suspected cases of phthisis. The plan hitherto recommended of searching for pulmonary tissue in sputum has been to spread it on a flat surface, and to pick out of it with needles any portions that might appear likely to contain elastic fibre. He has, on the contrary, been in the habit of liquefying the expectoration by boiling it with a solution of pure soda, and then placing the fluid in a conical-shaped glass, when every particle of elastic tissue falls to the bottom, and can be removed and placed under the microscope, as is done in the examination of urinary deposits. In this way he has easily found 1-100th part of a grain of pulmonary structure after it had been mixed in bronchial mucus; and he calculates that 1-4000th to 1-6000th part of a grain may be detected in any expectoration that may contain it. In thirteen out of twenty-three cases in which tubercle was suspected to be in the first stage, lung-tissue was found in the sputum. In seven of the twenty-three cases, there was no physical sign of tubercle, but its existence in the lung was suspected from general symptoms only; and in the expectoration from these there was no pulmonary tissue. In sixteen cases there were stethoscopic signs leading to the belief that tubercle was present; and in thirteen of them the elastic fibre was found in the mucus coughed up. There were twenty-four cases in which auscultation and percussion indicated softening of tubercle in the lungs, and in all pulmonary tissue was present in the sputa. In fifteen the physical signs were of a doubtful nature, and seven of these pre-

sented microscopic evidence of ulceration of the lungs. In twenty-five cases the stethoscope indicated cavities, and in all these there were fragments of lung-tissue in the expectoration. In two cases the author had diagnosed enlarged bronchial tubes, and in neither of them was there any appearance of elastic fibre in the sputum. In sixty-nine cases he counted the numbers and size of the fragments of lung expelled. In one specimen, coughed up in twelve hours, 800 fragments were found; and often 50 or 60 fragments were detected, where, from stethoscopic signs alone, no great destruction of lung could have been anticipated. The proportion of bronchial tubes the author found to be least in the stage of softening, and greatest where the stethoscope indicated cavities. The greatest proportion of fragments of single air-cells was found in the first stage, and the largest proportion of large fragments of lung where cavities existed. The author concluded his paper by giving a number of practical directions as to the best method of conducting the examination of the expectoration, in order to find with quickness and certainty any pulmonary tissue that may be present.—*Med. Times & Gazette.*

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

Clinical Notes of Cases Treated in Different Hospitals of the Late Confederate States—Continued. By James M. Holloway, M. D., Professor of Physiology, University of Louisville, Ky. [From private Note-Book.]

Case 15.—(Showing the admissibility of treating secondary hæmorrhage from large arteries by styptics and compression, without the employment of the ligature.)—E. H. D., Captain and Inspector General, Johnson's Brigade, N. C.; aged 32 years; lawyer; dark hair and eyes; health good; wounded at Fort Stedman, near Petersburg, Va., March 25th, 1865, by schrapnel, fracturing and comminuting the bones of arm and forearm. He submitted to amputation of the arm at anatomical neck of humerus, on the 26th, at the Field Infirmary. Patient was transferred to private quarters in Richmond. The stump healed rapidly; no unpleasant symptoms other than occasional nervous twitchings; appetite unimpaired; and no appreciable loss of flesh or strength. Walked out on 19th of April, the stump being nearly closed. On the next day, while sitting, experienced tingling sensations in stump, followed immediately by a jet of blood. Medical aid was speedily obtained; the dressings removed, and after exposing the stump for a

few minutes to the air, a compress was secured in the axilla by a roller bandage.

Subsequently the patient stated, that for three days previous to the hæmorrhage, the discharge from the stump, which was never profuse, increased in quantity, was darker, and accompanied by constant pain. Dr. Nichols, of New Orleans, remained with patient during the night. Hæmorrhage recurred at three and six A. M., of the following day.—Upon removing dressings, large clots were found in axilla and under pectoral muscles. A consultation was held; present Drs. Peticolas, Maury, Nichols, Briscoe and Holloway, all of whom agreed as to diagnosis and treatment, and were made acquainted with the following notes of the case, as recorded from day to day:

Diagnosis.—Indeterminate hæmorrhage from axillary artery, caused by ulcerative destruction of its coats and the newly formed tissues surrounding.

April 21, 10 A. M.—Pulse frequent and feeble; blanched from loss of blood; mind lucid; fully aware of the danger of his situation. After a full stimulant was given, digital compression in subclavian triangle was made and chloroform carefully administered. Dr. Maury in charge of knife. The dressings were removed and cicatrix laid freely open, this wound being enlarged by another incision at a right angle, extending through skin and great pectoral muscle. A number of large clots were scooped out and, the cavity being empty, compression was removed and the blood welled up from the bottom, which corresponded with the lower border of the clavicle. The tissues were so disorganized that the artery could not be found, and it was decided that the search for it should not be prolonged, and that plugging the cavity with lint, steeped in saturated solution of persulphate of iron, was advisable. This was done, and the plugs secured by a figure-of-eight bandage. Ordered opium grs. ij.; quinia grs. x., to be take at once.

22d.—Has reacted fully; slight increase of heat in stump; rested well all day and night under anodyne and sedative. Cold water dressings to wound, and ordered opium grs. iij.; quinia grs. xv., in three doses; first at 11 A. M., and repeat every six hours. Beef essence, milk punch, wine and egg-nog ad libitum.

23d.—Pulse 108; slept soundly since last note; mind lucid when roused; slight uneasiness in stump; clots of blood dissolving and discharge offensive; dressed with Labaraque's solution; plugs to remain undisturbed; tongue coated; relishes food and stimulus; continue quinine without opium; bowels not moved.

24th.—Pulse 108; colic last evening; speedily relieved by large enema; uneasiness in stump continues. Took 2 1-2 grs. opium at 9 P. M., under which rested well and awoke this morning bright and cheerful; skin cool and moist; appetite unimpaired; no hæmorrhage; disorganized blood still discharging. Soup and soft boiled eggs.

25th.—Pulse 96; improved in volume; rested at night without anodyne; toddy at 12 M.; dressings undisturbed; discharge free but not so offensive; cheerful and hopeful. Ordered 15 drops Tr. Ferri Mur., three times daily.

26th.—The sponge that was placed over plugs was removed this morning, and slight oozing occurred from lips of wound; changed his linen and made him more comfortable in bed; plugs still undisturbed; discharge not so free and slightly streaked with healthy pus. Continue good diet and stimulus.

27th.—Had slight rigor yesterday, after linen and bedding was changed, followed by fever, which soon subsided; is troubled with a cough; rested tolerably well during night; pulse 120; volume less; anæmic but not losing flesh rapidly. Removed outer dressings, allowing the plugs to remain; approximated lips of wound. Continue iron; veal cutlets, egg-nog and brandy; of the latter takes about a pint and a half daily.

28th.—Annoyed by cough all yesterday; soothed somewhat by simple remedies; another attack of colic, severe and protracted, requiring powerful anodynes and anti-spasmodics; pulse 120; discharge of pus very free from stump—also from sinus near clavicle; plugs intact, but being pushed out by granulations that are forming underneath; appetite still unimpaired; tongue dry and furred resulting in part from use of morphia; bowels moved by enema.

29th.—Pulse 120; rested well since last note; tongue moist and clean; losing flesh rapidly from night-sweats and increased discharge of pus; plugs loosening from their attachments. Diet—six eggs, soup and veal: brandy ad libitum; increased dose of iron.

30th.—The outer plug came away last evening without force; another at 12 P. M.; one plug remains; discharge of pus healthy, containing flakes of the styptic; pulse 120.

May 6th.—Had improved steadily since last report, until yesterday morning was seized with severe lancinating pain in right side, which persisted, with nervous symptoms, all day; physical examination of chest could detect no lesion in lung; still strong suspicion of supervention of pyæmia is entertained; suffers also with pain and rigidity of masticatory muscles; which, he states, has annoyed him for several days; appetite impaired, which he attributes to pain in jaws; the pain in side controlled somewhat by anodynes and the external use of chloroform. Continue diet and stimulants.

7th.—Pain subsided; passed good night: starts occasionally during sleep; although one plug still remains, granulations are rapidly forming and the edges of the wound are approximating; pulse 112. Dressed wound with adhesive strips.

9th.—Feels languid from colliquative sweats; pain and rigidity of jaw increased and seriously interfering with relish for food; no sign of inflammation about face or mouth; no evidence of muscular spasm elsewhere; marked increase of discharge of pus, freely mixed with flakes of the salt of iron, inducing the hope that the remaining plug is coming away; the track of the wound, which is nearly filled, was cleansed by the syringe, and afterwards a weak solution of sulphate of zinc and laudanum was injected, causing considerable pain; patient turned upon side and the shoulder well supported by broad strips of adhesive plaster. In the evening his linen was changed; he was removed to another bed

and his shoulders elevated. Ordered full doses of Tr. Cinchon. C., and Elixir Vitriol; continue full diet and stimulus.

10th.—Rested well during night, without sweating; cleansed track of wound and repeated zinc and laudanum lotion; discharge still tinged with the iron; pain and stiffness of jaw remains; pulse irritable.

Left the case on the 11th in charge of Drs. Nichols and Peticolas.—Mrs. D., the patient's wife, wrote on the 16th, that the remaining plug was removed on the previous evening by steady traction, after which the patient experienced entire relief from pain and uneasiness. This plug was abont the size and shape of a turkey's egg; improving rapidly.

A letter from the Captain in November, 1865, informs me that his wounds have healed, and his general health entirely returned.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

PARIS, December, 1866.

M. Benjamin Auger has kindly placed at my disposal, a monograph he and M. Worthington have published recently upon melanosis. These gentlemen have brought together six observations of this rare affection, which at times invades all the tissues, whilst in other instances its ravages are confined to a single organ or organic system. Another form consists in a species of general infiltration, or rather ubiquity, in a manner so mysterious, that it becomes difficult to determine the precise spot selected by the affection. It is needless to recall the characteristic marks of melanosis otherwise, than by saying that it is an accidental production of a more or less dark hue. The first observation relates the history of a man twenty-eight years of age, of a feeble and scrofulous habit. A fistulous orifice on the back of the hand gave passage to pus of fetid odour, and serous quality. The patient was admitted into hospital in July, 1859. Six months before that date there suddenly appeared pains in the chest accompanied by cough and dyspnœa; these last symptoms went on constantly increasing until the end. At the same time, the vertebral column became painful, and this sensation extended along the course of the intercostal nerves. Gradual deformity of the spine ensued, dullness on percussion beneath both clavicles. Diminution of the respiratory murmur in the left lung. On the right side, auscultation furnished the signs of advanced tuberculosis. The expectoration was abundant, quite fluid, and showed streaks and clots of a darkly tinted matter, in such quantity that the whole mass became

slate-coloured. The general symptoms grew worse, and death intervened twenty-nine days after admission. The post-mortem examination took place twenty-four hours later, and on percussion, complete dullness was noted as existing over all the chest; the lungs were adherent in every point to the thoracic parietes, and their surface was uniformly blackened. On tearing them away, a large cavern was found to exist in the dorsal vertebræ, and to communicate by means of a small opening, with an excavation as large as a hen's egg, hollowed out into the posterior portion of the right lung, whose tissue in this spot seemed as though smeared over with ink, and furnished a dark glutinous fluid on pressure. Whilst handling the lung, a number of small, indurated bodies, resembling tubercular deposit or the residue of apoplexy, were found disseminated throughout the organ, and on making a section, the same black hue obtained everywhere, furnishing the liquid alluded to previously. These hardened nuclei, on examination, were seen to consist in a condensed black matter, and their limits were not easily to be ascertained, as they gradually and almost insensibly became mingled with the adjacent tissue, still their approximate volume equalled that of a walnut. At the apex of the right lung, several medium sized cavities were found, whilst the corresponding region on the left side was healthy. The pulmonary tissue, contrarily to what might have been expected from the condensed surface resulting from the section, floated still. The trachea and bronchial tubes were filled with the substance, which during life constituted the dark sputa, and the bronchial mucous lining was altered in its appearance, and seemed as though dyed by the expectoration. The vertebral hollow was everywhere surrounded by osseous parietes, save in the immediate neighborhood of its orifice, where the bone was replaced by tissue of fibrous and ligamentous character, and posteriorly, where the dura-mater acted a similar part. The body of the fourth dorsal vertebra had almost entirely disappeared, and it was represented solely by a few fragments. The inferior and superior segments of those vertebræ placed immediately in relation with the principal seat of disease, were like the one first named, excavated to constitute recesses, contributing towards the formation of the cavern. The corresponding inter-vertebral disks were altered in their texture, and were easily separated into parallel layers, pealing off like scales. The strictured portion of the cavity, which served to link together the pulmonary and vertebral excavations, was about half an inch in diameter, and was intimately connected with the pleura. To the right of this orifice, was found the œsophagus, and the

aorta coursed down along its left side, both these organs being perfectly healthy, notwithstanding the fact that the former partially covered the opening.

The vertebræ were encased in a thick and hard fibrous sheath, portions of which were of recent formation, still there was no adherence to the diseased parts, which were separated from this membrane by the dark-coloured liquid already so frequently mentioned, and which, as it will have been seen, was met with wherever the disorganization occurred. The portions of bone forming the boundaries of the hollow, were infiltrated to the depth of about half an inch, by a substance similar to charcoal in colour; the lamellæ of the spongy tissue, showed hypertrophy existing at the expense of the cells, whose calibre was notably lessened—to such an extent, in fact, that the whole substance appeared to be transformed into compact tissue, the likeness receiving additional confirmation from the physical properties of the altered bone. This modification was visible only after maceration, by means of which the melanic infiltration was removed. Another feature was the presence of perpendicular channels running through the vertebræ, and no better description can be furnished, than by comparing them to the destruction worms produce upon trees. The hypertrophy noted above, was limited in extent, and was, on its outer circumference, mingled with healthy tissue, so as to render an exact line of separation between the two, difficult to be drawn. The destructive process, however, did not stop here, as by removing the ligaments a second cavity was discovered on one of the sides of the fifth dorsal vertebra, and here too, existed again the black matter, this time under the form of a jelly, easily carried away by a trickling stream of water. In the interior of this cavity, the bone had not been completely removed, as there were still thin spiculæ around the edges, but in the central portions the osseous tissue had entirely disappeared. From an inspection of these two hollows it would seem that the disease had a tendency to rarify the osseous tissue in the infiltrated spaces, and on the contrary, to condense its elements in a circle, enclosing the former zone. Vegetations of bony matter, evidently resulting from inflammatory action, existed in the neighborhood of the caverns. The ribs in the same vicinity presented on their anterior aspect, white concretions, containing many vessels, and in these spots, the periosteum was thickened and more vascular than usual.—Here too, the pleura and subjacent tissues, were infiltrated with plastic productions, which, upon sections being made, resembled cartilage.—The fistula on the back of the hand led into an excavation, where the

same lesions of the bone, signalized above, were found afresh. There was no mistake possible in this case; the black substance infiltrating the lungs and bones, was evidently melanosis. The dark colour could not be attributed here, to the progress of age, nor to an accumulation of particles of carbon, for the patient had nothing to do with mining or similar professions, and besides, miners enjoy excellent health, notwithstanding the alteration in the hue of their lungs, whilst in this observation death proceeded from the lesion of these organs. From this case, M. Auger draws the following deduction to be applied to the history of melanosis, and as this affection is one, whose description is still incomplete, the conclusions are invested with considerable interest.

Melanosis may appear in the lungs, not only under the form of cysts, but also under that of irregular masses, whose volume is apt to vary, and it may exist, too, disseminated throughout the pulmonary tissue, infiltrating itself into the spaces which separate the constituent molecules. As the disease goes on, the melanic matter may soften like tubercular deposit, and leave excavations, after having been evacuated into the bronchial tubes. Perhaps, remarks M. Auger, a cavern in the lung has never before been observed to communicate with a large excavation in the vertebræ. The existence of a lesion of this kind, might, however, have been admitted theoretically, when, from one cause or from another, the lung has become blended with the thoracic parietes, in such a manner that their union becomes very close. The present case affords a practical demonstration of the occurrence of this double species of destruction. How great would have been surprise, had the patient expectorated portions of bone, yet this might easily have occurred in the case recorded. Should osseous expectoration, that is, sputa containing bony fragments, ever be seen, would not the knowledge of M. Auger's observation facilitate the diagnosis, and give satisfaction to the mind of the practitioner, who otherwise might remain for a long period in a state of uncertainty. The diagnosis would also be rendered still easier, were the expectoration of osseous particles observed to coincide with deformity of the spinal column.

Melanosis of the lung offered no characteristic stethoscopical symptom, in M. Auger's case, at least. The slate-coloured sputa, however, might appear pathognomonic. Notwithstanding the absence of distinguishing peculiarities, it is still possible to make a differential diagnosis between melanosis and pulmonary gangrene, for in the latter the very fetid odour of the sputa, can leave no doubt as to the nature of the

disease, from which they result, and besides, the expectoration is not of the same quality in the two cases. In pulmonary phthisis, black clots are occasionally found mingled with the spittle, and these clots offer much resemblance to the dark matter of melanosis. The presence of this substance, in the expectoration of ordinary cases of consumption, meets with a plausible explanation, when it is remembered that the black deposit of the pulmonary tissue increases during the course of phthisis, and that the time must come when a portion of the lung has to be eliminated. If the eliminated portion happens to correspond with a locality in which this extraordinary deposit has taken place, nothing is easier than to understand how the sputa may contain a black grumous matter, quite analogous in appearance to that of melanosis. In the observation, whose details are given in the above lines, a noteworthy fact is, that notwithstanding the acute character of the pulmonary affection, there was little or no fever during its progress. From the very outset the prognosis was unfavourable—true, the man was of strumous habit; this, coupled with his trade, which subjected him to sudden thermometric changes, may, perhaps, furnish a key to the etiology. M. Auger mentioning the opinions of different authors upon melanosis, dwells upon the term, "melanic phthisis," employed by Boyle, as being particularly applicable to the case described, and as showing the very intimate connexion existing between the melanic mass and the tubercular production.

The next observation gives the description of the case of a feeble and emaciated woman, sixty years old, who was admitted into a hospital at Nantes in May, 1859. On the left cheek there was a tumour of the size of a pigeon's egg, darkly coloured in its upper half, and of a deep red hue inferiorly. This served as a centre, around which were collected four smaller masses, resembling ebony—the whole had been growing slowly for several months, and the submaxillary ganglia were enlarged, but there was no pain. Melanic cancer was the diagnosis. The general health was tolerable, and as the enlargement of the ganglia might not indicate a tendency towards the generalization of the disease, an operation was decided upon, and the chloride of zinc employed upon the main tumour. Cicatrization was rapid, the smaller masses remained stationary, and the patient was discharged apparently cured, two months after admission. On the 14th August, of the same year, she returned to the wards, and great was the surprise of every one on witnessing the fearful rapidity with which the disease had become general. A countless number of dark purple tumours, each as large as a good

sized pea, covered the neck, the arms, the anterior and lateral portions of the chest and abdomen. The thighs, legs, and forearms were free from morbid manifestations. To the touch, these tumours gave the sensation of neatly limited indurated points, with sharpened summits. The tumours which remained upon the cheek when the patient was discharged, had not undergone alteration—the only change was the appearance of a fresh mass a little below the cicatrix, resulting from the operation. The woman was very weak, had no appetite, pulse thready, diarrhœa. These symptoms went on increasing in intensity, and death closed the scene on the 24th August. Forty hours later, the post-mortem examination was performed. The largest tumour on the cheek might be compared to a walnut in bulk, and its two halves were differently coloured. On maceration, the epidermis came off easily from the whole mass occupying the cheek, and covered all the dark lumps mentioned previously, forming their only investment. Its structure, however, was modified so as to be similar to a pseudo-membrane, and the sole way of ascertaining its real nature, was the fact of its fusion around the edges of the diseased part with the healthy epidermis.—The tumour was cut into, and was found to be, in general, darker superficially than in its more remote portions. The black colouring was especially visible immediately beneath the epidermis, where it formed a distinct zone, which, as it were, had usurped the place of the dermal elements. The recidivation of this tumour did not occupy the situation filled by the former mass—here the cicatricial tissue was found unaltered. The other masses developed in the lamellar substance were more uniformly black; some were solid, whilst others were constituted by cysts containing a fluid similar to ink. Whilst preparing to break open the skull, black tumours were noticed between the integuments and the periosteum, and similar deposits existed also between this membrane and the bone. Beneath the arachnoid, twenty small black tumours were discovered. At the upper portion of the left hemisphere of the brain there were five or six softened points dyed a deep yellow. Several small apoplectic foci filled with semifluid black blood, were seen on examining the cerebral tissue. To the left above the pons varolii, and occupying a portion of the optic thalamus, there existed an apoplectic clot of recent formation, as large as a hazle nut. In the centre of the white matter, a melanic nucleus was found, limited superficially by a very black zone, and having an interior portion of a less dark hue.—The thoracic organs were healthy, but beneath the pleuræ were found several tumours as big as good sized shot. The liver was much enlarged,

and on its surface might be seen numerous circular black spots surrounded by a white concentric margin. These black spots corresponded with tumours which penetrated into the liver. The hepatic tissue was full of nuclei, some of which contained a very dark substance, whilst others were more condensed and resembled truffles, others again were filled with destroyed and decomposed elements of the organ, and somewhat like melastatic collections in their early period. On the convex surface of the liver, near the mœsial line, was a large hydatid cyst, which had hollowed out an excavation in the liver on one side, and on the other pushed up the diaphragm so as to form a hernia in the thoracic cavity. The diaphragm and the cysts adhered together closely.—On penetrating into the cyst, the following layers were met with: a fibrous coat, entirely covered by the peritoneum, except where the cyst was received into the substance of the liver. This membrane was very vascular and was lined internally by a serous investment on which were numerous calcareous incrustations. The cyst was filled with a soft cheese-like yellow substance, and hydatid vesicles in different stages. Some of these vesicles contained a yellow matter analogous to that already described. The spleen was cut open, and in its superior portion a deep black colour was detected. The kidneys and suprarenal capsules were healthy. On the inferior aspect of the tongue, a number of dark red spots with a deeply dyed central portion, were noticed; these spots appeared not unlike scorbutic hæmorrahages. Several also were visible on the upper aspect and on the muscles. In the submucous tissue of one of the aryteno-epiglottidean folds, a small tumour was cut open, and found to contain a black liquid. In the intestines there were many small black lumps, like grains of shot, placed in the submucous cellular tissue. A similar deposit was also met with on one of Peyer's glands. These tumours were not encircled by vessels. Mesenteric, thyroid, and mammary deposits similar to the above, were remarked. A longitudinal section of the vertebral column was next made. All the vertebræ were impregnated by a black matter, not always unformly disseminated, but sometimes condensed in each verterbra under the form of a small spherical mass. The bony tissue was softer than usual. In the body of the axis there existed a cavern which extended to the base of the odontoid process, and contained a black gelatinous matter, easily torn into shreds, and removed by a stream of water. The walls of this hollow were then noticed to be black, and the cavity was originally constituted by three diseased points, which gradually united to form a single depression,

whose parietes, however, still opened into distinct recesses communicating with the main excavation. Around the edges was found the same condensation of the osseous elements noticed in the previous observation. All the bones in which spongy tissue prevails, were infiltrated by the black substance, and on striking these bones, the dark matter oozed forth at each blow. The bones forming the top of the skull appeared less thick than usual, and on examination by holding them up to the light, a number of black spots were seen, and found to exist merely in the diploë. The ribs were easily broken, and were infiltrated by a dark substance which came away under slight pressure. In the other portions of the skeleton, beneath the periosteum, a large quantity of spots occurred, and were due to small black tumours in the interior, or on the skirts of the spongy tissue. These spots were more abundant in the neighborhood of the joints. A longitudinal section of the femur was made, and in the spongy element nuclei were discovered entirely similar to those existing in the vertebræ. The central canal of the humerus was filled with these masses. This peculiar matter was tested with nitric acid, and by this agent converted into a yellowish substance.

M. Auger furnishes another observation afforded by the corpse of a man he saw in 1862. At the upper extremity of the right tibia there were three tumours. The largest of the three was as big as a hen's egg, and in this spot the skin was darkened. The same happened with the other two, though to a smaller degree.

Masses of a similar nature were also noticed elsewhere. On a section being made, these tumours were seen to be constituted by a soft black substance lodged in the bone, at the expense of the osseous tissue. In one of these excavations, the melanic matter floated in a perfectly transparent albuminous fluid. Around the cavern there still existed evident traces of inflammation. In this case M. Auger was unable to examine the vertebræ.

In 1862, a post-mortem was performed on a subject who presented melanic cancer of the axilla, and a large ulcer on the leg, besides symptoms of the same disease in the inguinal ganglia. A section was made of the spinal column, and of the femur on the unhealthy side. All the vertebræ in the lumbar and at the termination of the dorsal regions were dyed black, and the liquid was expelled easily from the spongy tissue. In the femur was found a dark gelatinous mass filling the whole medullary canal. The viscera were healthy. M. Auger publishes two other observations—one of which belongs to M. Collis, and which

therefore I merely mention—and discussed the nature of melanosis.—He quotes Collis, who says that this disease is generally considered cancerous, but that there are exceptions to this rule, as melanosis in many tumours exists rather in an accidental manner, than as a special form of pathological genesis. However, it posseses the property of constituting, by itself alone, multiple tumours composed solely of melanic matter, and whose cancerous nature cannot be denied. As concerns the essence of melanosis, M. Auger believes that pathological causes may occasion the depositing of pigmentum in certain tissues which may exist in the healthy state, or as neoplasms. The second observation shows the infiltration of a neoplasm by pigmentum, whilst the first presents the same alteration happening to an element habitually found. In neither of these instances was there any lesion of the supra-renal capsules, and this fact would seem to undermine Brown-Séquard's theory of the important part these organs play in the formation of pigmentum. The question may be asked whether Addison's disease bears any relation to melanosis? The answer, however, cannot be given as yet, from want of sufficient data, nor can the expediency of operating for tumours of the species described by M. Auger be determined owing to the paucity of similar cases on record.

T. L.

THE APPLICATION OF THE THERMOMETER TO DISEASE.—TREATMENT OF CANCER BY ACETIC ACID INJECTIONS—BROMIDE OF POTASSIUM.

LONDON, January, 1867.

The application of the thermometer to disease, is just beginning in England to receive a portion of that attention which ought long ago to have been accorded to it, as a most valuable aid, both in diagnosis and in prognosis.

It has for some years past been used by a few English observers, and in a few diseases, as by Dr. Parkes, at University College, by Mr. Simon, in the study of pyæmia, and by several Physicians in cholera; but within the last few years it has been applied far more generally to the observation of various diseases, especially the continued fevers; and quite recently Dr. Sanderson has made the thermometer one of the agents of his investigations into the nature of the cattle plague. I cannot but think, that much of the recent

extension of the observations as to temperature in fevers, is due to the admirable manner in which the subject is brought forward by Dr. Aitken, in his valuable work on the "Science and Practice of Medicine," a book which has met with great and deserved success here, and one which I would heartily commend to those of your readers, who are not already acquainted with it, as being the most complete and scientific work on the subject at present in existence in the English language. It is, perhaps, not written in so highly attractive a style as the deservedly popular lectures of Sir Thomas Watson, but on the other hand it is very much fuller, and embraces the doctrines of modern pathology, and the most recent observations to a much greater extent. Of course, in so vast a work written by one man, there must be many defects; and in some subjects Dr. Aitken has done little more than act as a compiler, in gathering information from various sources; yet, even this is done with great care and ability; while on other subjects he shows himself to be an accurate and well-informed original observer. The chapters on fevers are remarkably well written, and perhaps no feature of these is more valuable than the remarks on temperature. Here Dr. Aitken has brought before English readers the results of the extensive observations of Prof. Wünderlich, of Leipsic. Some of these results are given in a remarkably instructive diagrammatic form—the paper being divided into vertical columns for the successive days, each affording space for morning and evening observations, while horizontal lines crossing these divide the paper into degrees of temperature—say from 96° to 106° F. The observed temperature is marked in the proper place on this paper each morning and evening, and the spots indicated by the successive observations are joined by lines, so that a zig-zag line or curve, across the paper, indicates the range of temperature in the disease, or in other words, its thermometric history. This, I may say, is the most convenient way of recording the daily variations of temperature in individual cases.

Various thermometers are used for the purpose; the most important requisite in them is accuracy, so that deviations of a half or quarter of a degree Fahr., may be correctly observed. The axilla is by far the most convenient locality for observation, and the bulb

of the instrument should be placed beneath the fold of the pectoralis major, and buried as completely as possible in the soft parts. In this way the temperature of the body may be observed in less than five minutes. The observations in cases of acute disease should be repeated at least twice daily, and at the same hours on successive days, 8 A. M. and 6 P. M. being generally about the best times.

The value of such observations is very great, and at present but imperfectly appreciated; and the range of diseases to which they apply is so wide that I can only just glance at a very few of the important facts without professing to give anything like a general summary of the subject.

The thermometer may give very useful negative evidence—as to the non-existence of a disease—as, for instance, where there are symptoms which seem to point to the accession of fever or of some acute inflammation, as pneumonia, if the thermometer shows the temperature to be normal, we may expect that the symptoms will rapidly pass off, or at any rate we have no reason to fear the disease which we suspected.

Again the thermometer may indicate the presence of disease, which would otherwise be hardly suspected; thus in the first stage of fevers, the temperature is often high before there are any other well marked symptoms; and during convalescence, after the temperature has fallen, a relapse may frequently be known by a sudden rise in the temperature of the body, when the patient may seem to be otherwise progressing favourably.

The different fevers may also often be diagnosed by thermometric observations, in cases otherwise obscure. This is especially the case with reference to typhus and typhoid fever. When the temperature reaches on the first or second day to 104° F., the disease may be typhus, but certainly is not typhoid, and the same may be said when there is considerable decrease of temperature towards evening from the fourth to the seventh day, while a persistent rise of temperature from morning to evening during the same period is characteristic of typhoid.

We are also commonly enabled to distinguish by the thermometer whether the attack is likely to be a mild or a severe one. In

the former case the increase of temperature during the first days will be moderate, and the maximum attained not a high one; while a rapid rise of temperature at certain periods of the disease indicates the severity of the case, and extremely high temperatures indicate great danger or approaching death. The beginning of convalescence too is marked by "defervescence," that is a rapid or progressive decrease of temperature; and the progress of convalescence is more certainly indicated by this than by any other means; while any recurrence to a higher temperature leads us to be on the look-out for a relapse or for the development of some fresh disease or complication.

The thermometer has also of late been applied to the diagnosis of tubercular diseases, and an admirable little work on the subject has been published by Dr. Sidney Ringer of University College. He shows that tuberculosis is, as a rule, constantly attended with increase of temperature, and that by this means the deposition of tubercle may, with considerable certainty, be ascertained in cases where the symptoms are otherwise doubtful. On the other hand, if in a patient for whom we have reason to fear phthisis, and who is suffering from bronchial symptoms, we find the temperature normal, we conclude that tubercular deposition is not going on, though it may be threatened. Another important class of cases consists of those where the patient is known, from the symptoms and physical signs, to have pulmonary emphysema. But such a patient may also have tubercle, and we may have reason to suspect from his progressive exhaustion and profuse expectoration that this is the case, and yet we may be unable to ascertain the fact by percussion and auscultation, even when there are tubercular cavities in the lungs—the physical signs of the emphysema completely masking those of the phthisis. In such a case the thermometer at once solves the doubt; for while tuberculosis is certain to be indicated by a rise in the temperature, in emphysema and chronic bronchitis without tubercle the temperature is normal.

Since the publication of his book, Dr. Ringer has, conjointly with Dr. Rickards, published an interesting paper in the *Medical Times and Gazette*, in which he gives cases which go far to prove that the thermometer will enable us to diagnose between cancerous

and tubercular deposition in the lungs. Cancer occurring in the apex of the lung or in the posterior mediastinum may, as is well known, simulate phthisis so much as to render the diagnosis very difficult, and perhaps in some cases impossible. Now, in this paper, several cases of cancer are given, in which the temperature was observed, and found to be normal, or only presenting slight deviations. The same appears to be the case with solid growths generally, thus distinguishing them in a marked manner from tubercle.—Probably, also, as is suggested at the end of the paper referred to, solid tumours may also thus be diagnosed from deep-seated abcesses since the latter, except when chronic, are always associated at some part of their course with a considerable elevation of the temperature.

I fear to weary you by writing more on this subject, so I will break off here, brief and imperfect though my sketch is, since I cannot doubt that many of your readers are already familiar with it. It will not, however, have been useless if it induces any to study the subject who have not done so before.

A subject which has still more recently excited deep interest in London, is the treatment of cancer, from some original views which have been put forward by Dr. W. H. Broadbent, a Physician and physiologist of considerable eminence. It is to be hoped that the means which he advocates, apparently upon sound principles, may stand the test of farther experience, and not succumb to the fate of the numberless proposed cures for this frightful disease.

In 1856, Sir James (then Dr.) Simpson, threw out the suggestion of treating tumours by injection, which should have one of two purposes in view—one to destroy the tumour by caustics, and the other, and more difficult object, to "destroy the specific vitality."

Dr. Broadbent has lately brought before the Chester meeting of the British Medical Association, the subject of the treatment of cancerous tumours, by the injection of acetic acid, and given the results of a year and a half's experience.

He was led to adopt this method by considering the readiness with which dilute acetic acid attacks cell growth, dissolving the cells, and clearing the nuclei, and observing that subsequent neutralization of the acid will not restore them to their former condition, as is, on the contrary, the case with ordinary healthy fibrous

tissue. He argued, therefore, that a similar action would take place upon the cancerous tumour in situ.

Acetic acid, too, does not coagulate albumen, and, therefore, no bar is formed to its spreading through the tumour or into the circulation; and at the same time there is not the risk of embolism to be dreaded, nor would the healthy tissues suffer to any inordinate extent.

The proposition is so comparatively recent that the proof of its value remains to be seen; but the plan has been adopted in several of our hospitals, and I will give you an account of some of the results.

By an acupuncture needle and graduated screw syringe, about thirty drops of a solution of acetic acid (of the strength of one part of strong acetic acid to three of water) is injected into the tumour in different directions, making, however, generally, but one external puncture wound. If sloughing is desired, then a stronger acid and numerous punctures are advisable.

Mr. C. H. Moore, one of our best authorities on cancer, reported three cases treated by acetic acid injections to the Pathological Society on October 16. In all these cases the tumours had entirely disappeared. He also exhibited two cancerous glands from a patient, one of which had been injected, and the other not. "The uninjected gland contained abundance of fusiform and nucleated cells. The injected was reduced to a brownish, stringy pulp, in which pools of oil floated. Under the microscope scarcely any fusiform cells were to be found. There were found, however, corners and angles of cells, and pus corpuscles, granular masses, and abundance of fat."

In another case, since reported, the breast had been removed in February last, and a suspicious part of the scar in April. In September, four small cancerous nodules had appeared in the neighborhood of the scar. Two of these were injected on September 35.—They were not distinguishable on October 1. The other two were injected on September 16, and on October 22, after having been much swollen, were reduced to a single hard nodule, the size of a cherry-stone, and would probably be injected again.

In another case, a middle aged man, suffering from painful can-

cerous ulceration of the tongue, the lingual artery and gustatory nerve of the same side, were tied, with the effect of immediately relieving pain, but the injection of acetic acid caused no perceptible change in the state of the cancerous growth.

Dr. Broadbent reports one case (October 27) of very extensive cancer of the side of the face and neck, where the injections caused great destruction, but this was limited apparently to the diseased structures; and the absence of fœtor was characteristic in this, as in the other cases.

In a patient aged 23, under the care of Mr. Simon, I have been enabled to watch the effect of injection as far as it has gone. A large epithelial cancer of the tongue of three months' standing (the submaxillary gland being affected) was injected, on November 10, with thirty minims of the solution. In the afternoon there was some feverishness, with sharp throbbing pain in the tongue, but this subsided in the evening, and she slept easily. The tongue swelled considerably, but there was no approach to interference with respiration; and on the 13th the surface was cleaner, and the size of the tongue reduced to less than before the operation. It was again injected on the 16th and remains under treatment.

A case which I mentioned in a previous letter, in which the strong solution of chloride of zinc was freely applied to the deep parts after the removal of the upper jaw for suspicious tumour, was reädmitted after an absence of six weeks, and subsequently a large pedunculated tumour removed, which had grown from the opposite hard palate. It again recurred, and was injected with acetic acid on November 10. Hitherto there is not much apparent benefit, though a good deal of pain has been produced. But here the connexions are so deep that it is hardly a fair case for experiment.

In the successful cases the injection has not been repeated, and the effect has been at first to soften the tumour and give rise to some œdema, and eventually to bring about the absorption of the mass, a result quite possible, if the fatty degeneration be sufficiently affected. If the tumour does not disappear or soften, or if others arise after its disappearance, there is time to repeat the process; for generally the advance of the disease, especially in the early stages, is not extremely rapid. Whether this treatment may have

the effect of throwing the activity of the cancer upon other and deeper organs, cannot yet be determined; but as it must be allowed that cancer, once in active progress locally, tends to spread the more rapidly both to neighbouring and to distant parts—apparently in a direct proportion—we may hope that, if the destruction of the local cancer can be effected, the spread of the disease may be retarded; though we can hardly expect that in the generality of cases it will be altogether checked.

Bromide of potassium is a drug, the use of which has been lately revived in England to a considerable extent. A short time ago it was very much the fashion to ignore the bromides as being closely allied in properties to the iodides, and as presenting no advantages over them in the treatment of disease. Further research, however, has shown a considerable difference between the actions of the two agents. The expectations which were at one time entertained as to the effects of the bromide as a powerful discutient, especially in cases of enlarged spleen, have been to a great extent disappointed, and it was left out of the London Pharmacopœia of 1852. However, it has found a place in the new British Pharmacopœia on other grounds. It is now chiefly employed in those diseased states, which depend on congestion or irritation of the generative organs—such as some cases of hysteria and convulsions, nymphomania, menorrhagia, etc. This includes a more numerous class of cases than would perhaps appear at first sight, many anomalous symptoms being often due to such causes as congestion or an irritable and excited condition of the uterus and ovaries. In these cases the bromide seems to acts as a sedative, calming the excitement, and relieving the congestion. A gentleman to whom I administered it for some time in five grain doses, stated that it greatly diminished his sexual appetite, and I believe this has been found to be the case in other instances; so that it appears to act alike on the generative organs of both sexes.

From what I have said, I think it cannot but be regarded as a useful remedy, especially by the obstetric Practitioner. Especial care should be taken to obtain it pure. I believe in cases iodide of potassium has been fraudulently substituted for it.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

PRINCIPLES OF SURGERY—FOR STUDENTS. By W. CANNIFF, M. D., University New York. Philadelphia. Lindsay and Blakiston. 1866.

This manual will be useful to the Student, inasmuch as it gives, in brief space, those practical precepts, which in most Works are almost lost, on account of the minute and elaborate mode of their presentation. The author has wisely abstained from the literature of the subject; confining himself strictly to a plain and practical method of enforcing recognised surgical laws. The pathological views presented, are usually fair exponents of the teachings of the best modern authors, and the style of the author in their discussion is, with few exceptions, clear and commendable. There is an entire absence of pretention, and in these days of book-making and pedantry, this is a most attractive feature of the Work.

AN INDEX OF DISEASES AND THEIR TREATMENT. By THOMAS HAWKES TANNER, M. D., F. L. S. Philadelphia. Lindsay & Blakiston. 1867.

All Physicians will value this Work. It is small and compact. The descriptive is concise and comprehensive, a rare virtue in an author. The arrangement of diseases is alphabetical, and the busy Practitioner, who has not time for consulting ponderous volumes, can rapidly gain in these pages appropriate and valuable information. In treating obscure cases, there are few who would not find this Work a welcome companion.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By J. MOORE NELIGAN, M. D., etc. Fifth American Edition. Philadelphia. H. C. Lea. 1866.

Another edition of this familiar and estimable Work, has just been issued by the American publishers. This Treatise is so well known to every Physician, that it is unnecessary to say more than that, in this edition, 100 pages have been added by the Irish Editor, T. W. Belcher, of Dublin. Since the death of Dr. Neligan, Dr. Belcher has carefully revised and re-revised his well-known Work. Some few changes are made to have the views advocated conform to those of more modern authors, but it is just to the deceased writer to say, that these changes are few and generally immaterial.

The Common Nature of Epidemics and their Relation to Climate and Civilization: Remarks on Contagion and Quarantine. By Southwood Smith, etc. J. B. Lippincott & Co. 1866. (Through Woodhouse & Parham.)

The title of this Work is sufficiently extended to indicate its character and object. No one is more efficient in that department of medicine, than its gifted author, and no one is more acceptable to the Profession. His long experience, careful elaboration of details and comprehensive deductions, are worthy of all praise.—After a careful examination of all recorded facts and testimony, the author is opposed to the existence of quarantines. Now that the Public, as well as the Professional mind, is so much interested on the subject of the etiology and development of cholera, this Work will be found particularly appropriate and interesting.

MISCELLANEOUS.

"Non Omnes Eadem mirantur Ament que."—Hor.

Use of the Thermometer in Diagnosis and Prognosis.—The No. of the *New York Medical Journal* for November last contains some interesting remarks by Prof. Austin Flint on the thermometric phenomena of disease, a subject which has latterly engaged the attention of clinical observers in Germany and Great Britain. The following propositions contain the substance of his remarks:—

1. The thermometer is indispensable for obtaining accurate information of the temperature of the body, the perceptions of patients and the sense of heat or coldness communicated to the hand of the physician being alike fallacious.

2. In the essential fevers and all acute affections, the heat of the body is more or less above the mixiumum of health; and the increase of heat, as a rule, persists during the career of the disease. Fevers and acute affections may, therefore, be excluded by the fact of the heat of the body remaining within the limits of health; and the existence of an essential fever or an acute affection of some kind may be predicated on a persistent increase of heat.

3. A fever is purely malarial, that is, it is not a continued fever, nor is it associated with a continued fever, if, between the exacerbations, the temperature fall nearly or quite to the range of health.

4. The diagnosis of neuropathic affections which simulate in-

flammations may be based on the fact of the temperature not being raised.

5. Coma from uræmia may be discriminated from the coma occurring in fevers or dependent on meningitis, by finding the temperature not raised; and in cases of uræmia, coma and convulsions, intercurrent inflammatory affections may be excluded if the temperature remain normal.

6. In tuberculous affections, when tuberculization is going on, there is more or less increase of heat. In cases of suspected tuberculosis, a normal temperature shows either that tuberculosis does not exist, or, if existing, that it is not progressive.

7. In cases in which the history and symptoms excite fears of the existence of meningitis, the existence of this disease is not probable if the temperature be not increased; and on the other hand, increase of temperature sustains these fears, provided the patient have not an essential fever

8. The amount of increase of heat, as shown by the thermometer, provided the increase be not transient, is proportionate to the gravity of the disease, and is a criterion of the immediate danger. A persistent temperature of 105° always denotes great severity of disease, and a still higher increase renders it almost certain that the disease will speedily prove fatal.

9. The temperature in the different essential fevers and inflammations is governed by certain laws as regards progressive increase, daily fluctuations, and the rapidity or slowness with which it returns to the normal standard (defervescence) of the time of convalescence. Each essential fever or inflammatory affection has its own laws in respect of the points of difference just named; and any notable deviation from these laws, in individual cases, is an unfavourable prognostic. Thus, a decrease of heat below the normal range may indicate an internal hæmorrhage, and a sudden increase may point to an important complication or the occurrence of an intercurrent affection. Mildness of the disease, and the absence of complications or intercurrent affections may, on the other hand, be predicated on the disease pursuing its regular course as regards temperature.

10. The surest evidence of convalescence from an essential fever, or an acute inflammation, is a return of temperature to the normal standard. If an increase of temperature persist, after apparent convalescence, or, in self-limited affections, after they have reached the end of their career, either morbid conditions pertaining to the disease, continue, or some affection has been developed as a sequel of the disease.—*American Journal of the Medical Sciences.*

Comparative Frequency and Varieties of Hernia.—Dr. John

L. Sullivan writes to the *Nashville Journal of Medicine and Surgery*, giving his statistics of hernia:

Number of men examined, 10,000. Number rejected on account of hernia, 455; or 45.5 per 1000.

Varieties:	Femoral hernia, right,	1
	" double,	1
	Umbilical,	6
	Ventral,	0
	Inguinal, right,	234
	" left,	173
	" double,	31
		455

Non-Mercurial Treatment of Syphilis.—Mr. R. W. Dunn, in a pamphlet on the mercurial and non-mercurial treatment of syphilis, gives the results of experience of many authorities, as well as of his own; and from these draws the following deductions: 1. The primary sore can be healed without mercury. 2. Mercury does not prevent secondary symptoms. 3. The secondary symptoms that follow the non-mercurial are slighter than those that follow the mercurial treatment. 4. Secondaries are more frequent after the mercurial than after the non-mercurial treatment. If the patient be of a strumous diathesis, mercury ought to be avoided.—6. Rupia and bone-disease seldom follow the non-mercurial treatment. 7. Perhaps the disease disappears more rapidly under the mercurial treatment, but the result is not effective or lasting; and by avoiding the use of the drug altogether, we do not damage the constitution, and nature, with a little help, will cure the disease.—8. In hereditary syphilis, the rate of mortality is lower, and the duration of treatment is shorter, when treated without mercury.—*British Medical Journal.*

White Pine Wood Bullet Probe.—Dr. V Gelisch, of Los Angeles, Cal., recommends (*Pacific Med. and Sury. Journal*, Oct. 1866) a piece of white pine cut into the shape of a probe as a ready means of detecting a leaden ball in a wound. He says if such a probe be inserted into a wound and rubbed against the suspected object, and then quickly withdrawn, if the object be a leaden ball, trace of the lead will be plainly perceptible on the end of the probe. This will be useful where a Nélaton's probe is not at hand.

Lines to a Skeleton.—Fifty years ago the London "Morning Chronicle" published a poem entitled "Lines on a Skeleton," which excited much attention. Every effort—even to the offering of a

reward of fifty guineas—was vainly made to discover the author.—All that ever transpired was, that the poem, in a fair clerkly hand, was found near a skeleton of remarkable beauty of form and colour, in the Museum of the Royal College of Surgeons, Lincoln's Inn, London, and that the Curator of the Museum had sent them to Mr. Perry, of the "Morning Chronicle:"

Behold this ruin! 'Twas a skull,
Once of ethereal spirit full;
This narrow cell was life's retreat,
This space was thought's mysterious seat;
What beauteous vision filled this spot!
What dreams of pleasure long forgot!
Nor hope, nor joy, nor love, nor fear,
Have left one trace of record here.

Beneath this mouldering canopy
Once shone the bright and busy eye;
But start not at the dismal void.
If social love that eye employed—
If with no lawless fire it gleamed,
But through the dew of kindness beamed—
That eye shall be forever bright,
When stars and sun are sunk in night.

Within this hollow cavern hung
The ready, swift, and tuneful tongue.
If falsehood's honey it disdained,
And where it could not praise was chained;
If bold in virtue's cause it spoke,
Yet gentle concord never broke,
This silent tongue shall plead for thee,
When time unveils eternity.

Say, did those fingers delve the mine?
Or with its envied rubies shine?
To hew the rock or wear the gem
Can little now avail to them.
But if the page of truth they sought,
Or comfort to the mourner brought,
These hands a richer meed shall claim
Than all that wait on wealth or fame.

Avails it whether, bare or shod,
These feet the depths of duty trod?
If from the halls of ease they fled
To seek affliction's humble shed;
If grandeur's guilty bribe they spurned,
And home to virtue's cot returned,
These feet with angel's wings shall vie,
And tread the palace of the sky.

I communicate my formulæ for the two following preparations:

Sirop de Pepsine.

℞ Boudault's pepsin, ℥ ijss.
Distilled water, ℨ iv.
Sherry wine, ℨ iv.

Mix the pepsine with the water and Sherry, and digest four hours, at a temperature not to exceed 85° F. Then add—

Syrup of strawberries, ℨ iv.
Tinct. Cardamom comp., ℨ iv.
Carmine, grs. ij.

Digest and filter. Each tablespoonful contains five grains of pure pepsin.

Dose.—One tablespoonful immediately after every meal.

Crême de Bismuth.

℞ French Subnitrate of Bismuth, ℥ ijss.
Mucilag. acaciæ,
Syrup strawberries, ℨ ij.,
Essence Vanilla, gtt. xxx.
Carmine, grs. ij.

M. S.—Shake vial and take one teaspoonful three times a day, before every meal. Each teaspoonful contains five grains of the subnitrate of Bismuth. L. Ch. Boisliniere, M. D.

St. Louis, Nov. 16, 1866.

Comparative Merits of Incision and Dilatation of the Mouth of the Womb in Cases of Dysmenorrhœa.—Prof. D. Humphreys Storer read, in August last, a highly interesting paper on this subject before the Boston Society of Medical Improvement. The large experience and sound judgment of Prof. Storer not only entitle his opinion to a respectful consideration, but his conclusions to entire confidence. He says: "From a somewhat extensive employment of sponge-tents during the ten past years for the treatment of dysmenorrhœa and sterility, I have formed conclusions different from those of the gentlemen of whom I have spoken [Drs. Barnes, Baker Brown, Greenhalgh and Sims]. I have not unfrequently been disappointed in the result hoped for. The local obstruction has almost always been overcome by the long-continued, persevering employment of the dilator; but the opened canal does not always remove the condition thought to depend upon its closure—dysmenorrhœa and sterility still remain. I have, however, never seen the ill effects spoken of from the employment of tents. I cannot recall a single instance where more than a few hours' inconvenience has been produced; and in such cases the expended

sponge, when removed, has proved to have been originally much larger than it was supposed to be—showing that he who employs these tents should be acquainted with their uncompressed dimensions. My experience has taught me, then, that these contractions, however firm they may be, may almost invariably be overcome. The Physician need not feel that the part is undilatable because the application of three, or five, or half a dozen tents does not overcome it; in a case occurring in my practice, about a year since, *eighteen* sponge-tents were introduced at intervals of two and three days before the canal was opened. My perseverance was rewarded by the perfect relief of the patient. I could point, were it necessary, to several cases where, after years of sterility, the sufferer has been relieved and borne children, and in the intervals of their child-bearing have suffered no dysmenorrhœa. I have repeatedly seen cases of dysmenorrhœa remain relieved for years, and known no return. In a word, I have relied upon dilatation to relieve these affections, and whatever opinions may be advanced by others, so long as I feel we have a remedy from which we can confidently expect relief, and very rarely observe any injurious effects, I shall feel it my duty to employ it.

"That cases do occur where the difficulty *cannot* be removed by dilatation, there can be no question; but 'that incision is the only efficient and permanent remedy (in most cases) for dysmenorrhœa,' I unhesitatingly deny.

"Let us for a moment look at the method proposed. Those who advocate it should of course be satisfied that it has superior claims over the means now employed. I have thought the ill effects produced by *distension* might be occasioned by want of care; but those arising from incision *may* follow the operation of the most skillful surgeon who advises it, when the metrotome cuts through the walls of the *inner os;* and Dr. Barns states, to employ his own language, 'there is no doubt that the surgeon has actually cut through the substance of the uterus, and wounded the plexus of vessels outside; hence severe and dangerous hæmorrhage has ensued, and inflammation of the peri-uterine tissues.' And even supposing the operation should be successfully performed, it is acknowledged by Dr. Routh, one of its advocates, 'that such an amount of contraction frequently exists as to render it necessary to have a dilating substance worn for a considerable length of time to prevent its perfect occlusion;' and Dr. Williams observes that 'oftentimes, no relief is afforded. He had seen a patient whose cervix uteri had been slit up on both sides, forming two large protruding lips, without affording any relief to the sufferer.' Where the external os has been almost cartilaginous to the feel, I have overcome the obstruction with the hystero-

tome; but I have never attempted to divide the internal os. I cannot, however, recall the instance where it was required."—*Boston Medical and Surgical Journal.*

The "Poor Man's Filter."—In the food department of the South Kensington Museum, stands "the poor man's filter." It is an ordinary flower-pot, plugged (not tightly) at the bottom with sponge. A layer of coarsely powdered charcoal, about one inch thick, is placed in the bottom of the pot, then another layer of sand of the same thickness, then pebbles, coarse gravel, and stones are placed on the whole. This forms an admirable filter, and one within the reach of the poorest.—*Medical and Surgical Reporter.*

Treatment of Typhus Fever by Tea.—Dr. T. W. Grimshaw, one of the Physicians to Cork Street Hospital, Dublin, relates thirty-three cases of typhus fever, of which number twenty-one cases were successfully treated by tea, without any other internal remedy of importance; and some of them were of a severe character.—*Medical News.*

Inoculability of Tubercle.—In the *Gazette Hebdomadaire* we have a continuation of N. Villemin's researches as to the inoculability of tubercle. In rabbits he has again and again succeeded in reproducing it in this manner, not only when taken from the human subject, but still more rapidly when derived from the cow; further, the tubercular matter thus produced in one rabbit could be in like manner transmitted to another, in the same way as syphilis.—*Med. Times and Gazette.*

Novel Mode of Swindling a Physician.—In a report of the Medical Association of Moselle, we are told of a case in which a woman refused to pay her doctor for more than one visit. She admitted in court that he had cured her of a severe illness; but said she only sent for him once; if he came oftener, that was his look out. The judge took the same view of the case; and the doctor got for his action an order to pay the costs of it!—*British Medical Journal.*

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

Professor Sigmund, of Vienna, Teacher in Venereal Diseases, the originator of the inunction method of treatment, has been made a

member of the Hungarian nobility by the Emperor of Austria "on account of his distinguised services as a teacher and Physician."

Dr. John H. Griscom has been elected President of the Association for the Advancement of Science and Art.

Professor Gräefe, of Berlin, has had assigned to him an eye clinic in the Charity Hospital of that city. His famous one near the hospital continues in full operation.

The sixty-second aniversary of the founding of the Georgia Medical Society was celebrated on the 2d January ult.

The *Dublin Medical Press* states that Dr. Debar, of Kircaldy, has discovered that "for the disinfection of inanimate material, the addition of a little nitre to sulphur, and the combination of these fumes with the steam of boiling water, improvises a disinfectant at once the most powerful, most searching, and most efficacious which can be obtained, utterly destructive at once of any latent contagion, and of every form of insect life."

The news from India gets worse and worse. From the latest reports, it would seem that something like 2,000,000 of people have died of famine on the shore of the Bay of Bengal.

According to M. Boettger, chloroform which has been altered by the action of the sun's rays, and contains hydro-chloric acid and a chlorinous odour, may be restored and rendered fit for use for inhalation by agitation with a few fragments of caustic soda. It may be kept exposed to the light in the presence of some fragments of caustic soda.—*Jour. de Phar.*

The dispatch, sent by cable, to one of the American Publications, announcing the death of Professor Trousseau, has proved to be entirely erroneous. This distinguished teacher has entirely recovered from his illness, and is now restored to his friends and that life of usefulness, so long characteristic of the man.

Dr. J. Marion Sims has recently returned to his home in New York, after a residence, in Paris and London, of several years, during which time he has had a remarkably successful Professional career. His extraordinary aptitude in uterine surgery has been the admiration of European surgeons, and though he carried some of his peculiar ideas a little too far, his talents have been acknowledged by all, and he returns with substantial proofs of their appreciation.—*Medical and Surgical Reporter.*

Medical Autobiography.—So much attention is now given to Medical Biographical writings, and so much care is taken to note down the different salient points of character, habits, etc., of the unfortunate victims, that some insight into the manner in which the very interesting facts are obtained by the author, is deserving attention. We are aware that printed circular-questions are sent to different distinguished individuals to "fill up and return to the author." We have not seen any such, but judging from the points which are brought out in those lives of medical men which we have read, the questions must run very much after the following fashion:

Where born; what hour; day or night?

Any paternal history? Ditto maternal?

Did you ever go to school? If so, where?

Did you ever learn anything at school?

Your early struggles? How many?

Did you start out to be a great man?

What are the names, ages, occupations, and marital relations of all your brothers, sisters, aunts, and male cousins?

Height in feet and inches? In stockings?

What was your last weight?

Are you a graduate of medicine? If so, when and where?

Would you be a doctor again?

Are you fond of lecturing?

What is your opinion of tobacco? Do you smoke or chew?

Your opinion of alcoholic liquor? Do you drink? If so, what is your favourite beverage? When and how do you take it?

What books, periodicals, letters, notes, etc., have emanated from your pen? Were they well received?

When did you marry; what for; how often, and where? Would you marry again?

How many children by each wife; their names, ages, and employments?

What is your opinion on quarantine?

Have you any property; if not, do you expect any? Did you marry rich?

Have you a good memory? If so, mention some examples.

Can you relate any illustrative anecdote of your character?

Are you religious? If so, how much?—*Medical Record.*

The Paris Faculty of Medicine.—The anticipated changes in this school have taken place. Trousseau, Andral, Cruveilhier, and Piorry have resigned. Jobert, as has already been announced, hopelessly insane, has been consigned to a madhouse, and during the year Malgaigne, Rostan and Guillot have died. Velpeau and Bouillaud alone remain of the old set that once made this school so famous, and the latter of these two gentlemen is expected soon to retire. Velpeau, seventy-five years of age, is as fresh, active and regular at his work as he was twenty-five years since.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

In the January number of this Journal, attention was called to the fact, that the increasing facilities, afforded by Steam and the Press, for mental intercommunication, with consecutive improvements in stenography, were rapidly revolutionizing both the contemporaneous history of Medical Science and long-established customs in regard to the acquirement of medical education. It was suggested that, under the operation of these influences, the preëminence accorded to familiar medical Centres, was visibly becoming diminished; that, as a welcome substitute for those centripetal agencies which exalted, inordinately, the advantages of a few foreign Capitals, while intermediate or contiguous areas were unwisely subordinated, there was being rapidly developed an irresistible force which, in its centrifugal action, is manifestly increasing the educational area and equalizing educational advantages. As America must be among the first to derive practical benefits from this transformation, which is rapidly taking place, it was suggested that it was the part of wisdom to determine what agencies would be most successful in promoting the progress and development of medicine, within her extended limits.

It will be usually found, on examination, that the prominence of any geographical section in any of the departments of Science, is due to agencies, which are not only comprehensible, but which can generally be elsewhere established. Very superficial analysis is sufficient to demonstrate the fact, that the advantages offered to students in European medical Capitals consist, in the main, of valuable clinical facilities; of a longer period of pupilage, during which the teacher is enabled to present his important subjects, fully and carefully elaborated; of abundant opportunities for prosecuting that kind of work, in which, though there be no connection with the didactic teacher, there is close and intimate relation with him who teaches by physical demonstration; of repeated examinations; in the enjoyment of the instruction of those who have made the subdivisions of Medical Science the object of exclusive study.

In large Cities there is a greater amount of disease, but it is not established, as yet, that the variety is proportionally greater. The mortuary tables of Cities differ conspicuously, in their grand aggregates, but not materially in pathological details. This being, at least in a great measure, true, it is not indispensable to a successful result, that the student, during his pupilage, should be called upon to witness the same clinical phenomena repeated ad infinitum, provided these phenomena are repeated sufficiently often to render their identification practicable. He is not present to gain that difficult experience, which long years of active practice only bring to the educated Physician, but to be taught how to identify disease, and the manner of its treatment. The physiognomy and behaviour of typhoid fever with its lesions, treatment and results, are learned in a ward of fifty, as well as in a Hospital of five hundred patients.—So with other diseases. It is not, of course, claimed that any disease ever exists as a fixed type, or that the same disease does not vary in individual cases, and it is fully admitted, that the experience gained by witnessing and treating such variations, through a series of years, is most valuable, representing, as it does, the difference between the mature Physician and the intelligent graduate; it is however claimed, that the student, even in a period of pupilage rationally ample, has neither the time nor the information to acquire this valuable experience, and that if the clinical advantages are sufficient to have diseases and lesions presented often enough for their identification and for illustrating their treatment, that further presentations of the same phenomena serve only to confirm familiar truths, and do not repay the student for the valuable time additionally expended. This being the case, it is evident that Cities smaller than Paris, or London, or Berlin, or Edinburg, or Vienna, are sufficiently populous to furnish clinical material and advantages, which are but variations in amount of what may be obtained abroad, and which to the student offer types and illustrations of all that he may see elsewhere. The clinical facilities, already extensive in America, are rapidly increasing both from the natural increase of population and by immigration, and from the fact, that the enormous amount of disease among the negro population will no longer be expensively isolated, but (as is the case wherever the

labourer is self-dependent) must be extensively aggregated in Hospitals. From this cause, Medical Colleges in such localities are enabled already to offer advantages that heretofore were impracticable.

As on a former occasion, the necessity for extending the period of pupilage in the education of the medical student was, to some extent, considered, it will only be said here that the indications furnished, by letters and medical literature, demonstrate the fact of an increasing willingness and desire on the part of Teachers and Schools to have this extension consummated. It is gratifying to find, that in several Schools, there is an intention of furnishing to the student the advantages of a Summer course of lectures, from competent teachers, such a course not being regarded as a portion of the number required previous to the examination for graduation. This will tend, in a great measure, to increase the facilities enjoyed in the American system of medical education and, with increased clinical material, to equalize, by so much, advantages offered elsewhere.

The necessity of daily or frequent examinations, as practiced abroad, must also be recollected and instituted in an equalization of advantages. It would be but a repetition of much that has been previously respectfully suggested, to analyze this subject at present.

The advantages of specialties and specialists to the Profession, the Student and the Public are indisputable, and are yearly becoming more manifest and more generally developed.

The present opportunity is embraced of presenting most earnestly the subject of dissection, as inferior in importance to none, when considering the various agencies which must be adopted for affording, in America, advantages equal to those that are offered elsewhere.

To the medical student the importance of constant dissection is immeasurable. It should be a chief aim and object of his collegiate attendance. By careful study, he may subsequently atone for valuable time and opportunities lost, during his collegiate course; but the neglect of dissection is to all, but those residing in large Cities, an error that is irredeemable. Every candid Physician aments that he did not dissect more, when the opportunity was offered; this being true, both with those who dissected much and

those who dissected but little. In the dark ages of superstition, when mutilation of the corpse was visited by retributive stoning on the part of the populace, medicine was a dream, a mere aggregation of speculative fancies. Its true foundation was laid, when the constant use of the knife, swept these cobweb creations from the brain of teachers, and consigned polemical theorists to well deserved obscurity. The wisest aphorism of the elder Hunter was, that "medicine without the knife is empiricism," and it were an easy task to bring the history of medicine to prove the truth of this declaration Where the science has been interrupted in its progress, great anatomists are absent from the stage, and continued discovery is the coincidence of their subsequent appearance.

One can appreciate the difficulty of efficient progress and continued discovery in the earlier ages of medicine, and understand how it is that the Science has made such rapid advances in the eighteenth and nineteenth Centuries, only when familiar with the history and development of dissection.

Though few men in these days have done as well, all must read with an irresistible smile, the boast of the old teacher, Montagnana, that he had dissected fully fourteen times, and no one can fail to admire the genius of Cortesius, who, though one of the best anatomists of his age, was allowed to dissect but twice in twenty-four years, morosely complaining, that he was deprived of the great advantages accorded to fortunate Professors, who enjoyed this privilege fully once in every year. Every true student takes pride in the memory of those earnest and honest workers, who so fully enjoyed the privileges accorded to them, and so soon left on the pages of Science, their names, as epitaphs, to mark their past existence and important labours.

These names are seen in every chapter of anatomy—Fallopius, Eustachi, Valsalva, Vesalius, Ruish, Sœmmering, Varolius, Loder, Havers, Glasser, Bertini, Casser, Poupart, Glisson, Willis, Gimbernat, Wharton, Cowper, Rivinus, Winslow, Brunner, Steno, Peyer, Malpighi, Morgagni, Pacchioni, Lieberkühn, Spigelius, Santorini, Thebesius, Herophilus, Purkinjie, Reil, Sylvius, Monro, Meckel, Ribes, Fontana, Jacob, Petit, and the long list of those whose names will perpetually serve to indicate structures, with which their labours are so happily identified.

One has, too, only to read anatomy to see that these privileges were first granted in Italy. The earliest names, Fallopia, Eustachi, Pacchioni, Valsalva, etc., are perpetual reminders of the fact. Passing from that period of anatomical obscurity to the present era in medicine, how great is the transformation, yet the wonderful change is due principally to the triumphs of anatomy and its kindred study, physiology. Remove from the medical work, which has been elaborated during that period, the contributions from these sources, and who could recognise the remaining volume? In no more suggestive way can one realize the fact, that upon faithful dissection has depended, and still depends, progress in all branches of medicine. It is the great basis of success and skill, in all of the departments of this Science.

Is it not strange, with these admitted truths, that Preceptors do not inculcate the great necessity of such labour upon their students? That the student, uninstructed and unappreciative in this respect, is informed at the door of the College which he attends, that he will not be required to dissect more than once—not as often as was the case in the dark ages? That an apology is offered for making him dissect at all? That one ticket fro . the Demonstrator is all that, in this connection, is required at his final examination? That this ticket is given, when the material is purchased and not after the dissection is made? Is it strange that, under such circumstances, the Demonstrator is a subordinate officer and not equal in position and remuneration with any member of the Faculty? Does any lecturer occupy a more difficult, important, responsible and honourable post? These are all questions which every one knows how to answer, and also that the true answers show a condition most discreditable to Colleges and Preceptors.

Is this condition to continue, with Preceptors and Schools and Students? The last are not to blame; it is not to be expected that they should know better. Will not, however, their Preceptors caution them against making this serious, irredeemable error in their education? Will not some steps be taken by the schools for instituting a better condition? Many speak and write, as though election to a Professor's Chair produced some mental or moral metamorphosis; that folly takes the place of wisdom and good judg-

ment; that the honest become corruptible, and that cupidity is substituted for liberality. These injudicious and injurious imputations or insinuations are believed by many, and work incalculable injury; destroying a proper respect for Medical Institutions and those who represent them. These gentlemen are selected generally from the ranks of the best in the Profession. Their attainments, their integrity, their professional pride are fair and true exponents of the circle from which they sprang. There is every reason for believing, that none, better than themselves, realize the difficulties and misfortunes which beset Medical Colleges and Medical education, in this Country.

What then prevents a radical change (apart from all other evils) in regard to a thorough prosecution of dissection? This system of dependent Colleges and ruinous competition. Were all of the Faculties reörganized, the condition would be unchanged.—If, however, America is to compete successfully with other Countries in medical education, and in equalizing educational advantages, a change must be made. Will not the subject of dissection offer the best opportunity for instituting or initiating improvement? Will not some College address, to all other Colleges, a Circular, proposing respectable and proper requirements, in regard to dissection?

Were this done, there cannot be a doubt of success, and even though many refused to make necessary changes, it is certain that the great body of the Profession would gladly come forward in support of that College, or those Colleges, instituting this improvement—condemning and perhaps closing those which were opposed to such a movement. Presses, medical, as well as secular, wield a certain influence—it may be small or great; all that can be exerted by this Journal is cheerfully and definitely pledged to that Institution, or those Institutions, which will come forward in behalf of this and all other improvements in Medical Education.

Contracts.—In reply to written inquiries for information on the subject of contracts, it is proper to say, that the sentiment of

the members of the Medical Profession, is as much opposed to the making of contracts now, as it has, justly, ever been. At a meeting of the Physicians of Richmond, Va., this delicate relation of the Physician to the Public and his own Profession, was discussed and by an almost unanimous vote, the execution of any contract, unless of a Federal, State or Municipal character, was unqualifiedly condemned.

The reasons for such condemnation are so well known to the Medical Public, that it is superfluous to discuss them. That the execution of contracts has, for many years, been disapproved by the great body of the Profession; that it is now justly disapproved, as injudicious and injurious, and that it must, in the future, be always condemned, cannot be doubted.

It is asked, how in the new relations of the negro to the Physician, can compensation for service be secured, and how can Practitioners, throughout the Southern States, for their severe and costly labour, be protected from ruinous loss. This subject is undeniably a most important and serious one, affecting as it does, vitally, the immediate interests of almost every Physician called upon to render such service. That it should be determined equitably and promptly is self-evident.

Of course, in isolated instances, no definite plan can possibly be preserved. In Cities, the service rendered to servants, employed by private families, can, without difficulty, be made reasonably remunerative. If such service be limited in character, the tax upon the servants will be so small, as to render its monthly or immediate payment a matter of justice to the Physician, and a source of no serious inconvenience to the patient. If, however, prolonged attendance be necessary, it is evident that, as is the case elsewhere, the employer must either consent to defray a portion of the cost or the servant must be sent to the poor-house or hospital. The difficulties surrounding professional service of this character, though material and annoying, are comparatively small, when contrasted with those experienced by Physicians, who are employed to protect the sick on farms and plantations; at mines and in factories; in foundries, and at the various centres selected by railroad and canal companies, and by corporate institutions, etc. Here the service

rendered is arduous and consecutive, and without some definite and efficient plan, the resulting loss would be so severe, as to virtually be a ruinous tax upon the Physician, or to deprive the sick of full and efficient protection.

The following plan will, it is believed, be entirely satisfactory to all interested. In all sections of country, the employers of laborers are enabled, either by experience or inquiry, to determine what, in a series of years, would be the average yearly cost of medical attendance, for a given number of employees. Of course this sum would vary proportionally, with the latitudinal and local causes of disease, with the character of the labour, etc. There would, however, be no difficulty in determining the probable sum necessary at each locality. This amount being approximately fixed for the year or month, it would be then necessary to provide for its payment, by a pro-rata weekly or monthly deduction from the wages of all employed. This aggregate deduction would constitute a fund for the payment of the medical attendant or attendants; each employee being, justly, allowed to decide this important matter for himself, and to select the Physician most acceptable to himself or family. Each Practitioner should present his bill for service actually rendered, this bill being strictly in accordance with the provisions of the appropriate City, Village or County fee-bill. At the close of each month, any unexpended balance of the fund should either be refunded to the employee, or placed to his credit for the next month or quarter, as may be mutually acceptable. If the fund be insufficient, it should be temporarily increased. For securing entire satisfaction, the accounts in connection with this fund, should, by agreement, be subject to the inspection of all interested.

It is believed that such a plan would be accepted by all, as just and equitable. It would infringe none of those principles of ethics so important and necesssary. It would secure to the sick attendance acceptable to themselves, and to the Practitioner an ample remuneration for his services.

At a meeting of the Physicians of Richmond, Va, (January 26th, 1867,) for the purpose of arranging a fee-bill for the year,

the following declarations, were, by a large majority, accepted and appended to the fee-bill adopted:

"The above fee-bill, founded on a just consideration of the important services which Physicians are called upon to perform, is designed to enable the Practitioners of Richmond to exhibit uniformity in their rates of charging; and it is expected that every member of the Profession will, in good faith, conform to it, whenever the pecuniary circumstances of the patient are such as do not clearly forbid it.

"Inasmuch as Physicians are required to pay cash for all their dues, it is but just to their creditors to require payment for Professional services immediately after they are rendered. This rule is to be adopted so far as it may be consistent with discretion and humanity.

"No patients, individually or collectively, shall be attended by the year at any stipulated price, unless by State or Municipal appointment.

"In case any one shall transgress these rules, he shall be considered beyond the pale of the Profession, and no consultation shall be held with him. If any one shall knowingly consult with such person, he shall be regarded and treated in a similar manner."

Richmond Medical Journal Commission.—It will be recollected that, in May, 1866, this Commission met in this City, for the purpose of examining all artificial limbs made in America. After a protracted and laborious, as well as efficient examination of all the Patents presented, selections were made and the entire Report was published in the June number of this Journal. A committee of this Commission was then appointed to obtain full statistics in regard to all Virginians, who had lost limbs during the late war, and to present the facts in a memorial to the Legislature of this State.—This Committe consisted of the following gentlemen: Drs. F. B. Watkins, L. S Joynes, J. S. D. Cullen, Hunter McGuire and Howell Thomas, of Richmond, Va. The work of this Committee was promptly and successfully executed, and the valuable facts obtained were placed in possession of the Legislature, at the commencement of its present session. The Governor of Virginia having been informed as to the objects and labours of this Commission, presented the whole subject for the prompt and favourable action of the Legislature.

It is a pleasure to state, to all who have been interested in this work, that an appropriation of $20,000 has just been made by the State, for the purpose of supplying an artificial limb to every Virginian who lost a limb during the recent struggle. The Board appointed for executing this law, consists of the Governor of the State, the Auditor and Dr. F. B. Watkins, Chairman of the Committee delegated to place, in possession of the Legislature, the facts and information collected by the Commission.

The energy and zeal displayed by the Chairman of the Committee in this cause are worthy of the highest praise, and those entitled to the benefit of this appropriation may confidently rely upon obtaining, not only his earnest sympathy, but of receiving his advice and active assistance.

NOTICES.

☞ The Editors of this Journal wish it understood, that they do not desire the subscription of any one who is unwilling to observe honourably and in good faith, the "terms" to which he subscribes. It is to them far preferable to receive five dollars, at the period of subscription, or within the limits of time specified on the cover of the Journal, than to wait for the increased amount which subsequently becomes due, and in the meanwhile to be compelled to originate means, for making cash purchases of materials, that are to be furnished, as an accommodation to the subscriber. If any one prefers paying one or two dollars additional for the accommodation extended to him, it is the result of his own choice, but it is certainly not in accordance with the preference of the Editors. After the election has, however, been made by the subscriber, and private resources have, for his benefit, been onerously taxed, the refusal to comply with a contract, to which he has voluntarily made himself a party, is a breach of faith, entailing (in the aggregate) serious injury to those whose confidence has thus been betrayed. If, therefore, any one is unable to pay five dollars within the period specified, or is unwilling to pay subsequently the additional amount necessary for his accommodation, it is requested that he will abstain from subscribing. The editors appreciate and acknowledge the prompt payment that has been made of those bills, in which there has been charged the additional amount necessary for the accommodation of the subscriber.

☞ Circular.—The undersigned will take pleasure in supplying his Professional Brethren, with vaccine virus, as heretofore, on the receipt of two postage stamps. At the same time, he is desirous of aiding the Female Orphan Asylum of this city, a part of whose inmates are sad legacies of the recent civil strife. He, therefore, proposes to all who can afford it, to remit one dollar for each crust, to be applied to the uses of this touching charity.

The virus, he proposes to distribute, has been cultivated more than eleven years. It is very active, and perfectly protective; the crust may almost always be removed on the fourteenth day, and never leaves a deep ulcer.

Should any abnormal symptoms be produced, or should it fail altogether, he will be glad to be notified.

James Bolton, M. D., Richmond, Va.

☞ This Journal is published as a Monthly octavo of ninety-six pages. It is now the largest Medical Monthly issued in America.

The Editors offer to pay, at the highest Journal rates, for ARTICLES, ESSAYS, CORRESPONDENCE and REVIEWS OF RECENT WORKS.

The terms of this Journal have been changed; see notice on the cover.

☞ Notices to Subscribers, Advertisers, Contributors and Correspondents.

Those once ordering the Journal will each year be considered as subscribers, and the terms of this Journal adopted in regard to them. An order for discontinuing the Journal should be sent at least two months in advance. As is usual, no subscription or advertisement will be discontinued until arrears are paid.

The Publishers assume the risks in regard to all amounts sent by mail, if the packages or letters are registered. When practicable, all sums to be so sent should be deposited with the Postmaster, and the "money order," obtained from him, transmitted.

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To each Agent there will be allowed twenty per cent. of the amount due for each subscription or advertisement.

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It is expected that all expenses will be paid on packages, foreign and domestic, sent to this Journal.

All contributions or papers, intended for insertion in the next Number of the Journal, should be received by the middle of the month preceding.

Contributions for publication must bear the signature of the writer, and must be communicated to this Journal exclusively.

Original articles should be written on one side only of each sheet, and the manuscript should be, by the sign (¶), divided into paragraphs.

Contributors can have forwarded to them, at a small expense, one hundred or more copies of their articles, in pamphlet form, provided the order to this effect be received before the period of publication.

The Journal will be sent a second time, when not received one month after the usual period of its appearance.

Rejected manuscript will be returned, if desired, by mail or Express, at the expense of the writer.

Each subscriber will give at length his name, Post Office, County and State.

MORTUARY.

Townsend, Dr. Howard, Albany, N. Y., Jan. 16th, 1867.
Chunn, Dr. J. T., Baltimore, Md., Jan 24th, 1867.
Green, Dr. Horace, Sing-Sing, N. Y., Nov. 29th, 1866.

BOOKS AND JOURNALS RECEIVED.

Infantile Paralysis. By Charles Fayette Taylor, M. D., New York. J. B. Lippincott & Co. Philadelphia. 1867. From the Publishers.

Report of the Committee on Spotted Fever, so-called. By James J. Levick, M. D. Philadelphia. Collins, Printer. 1866. From the Publishers.

Report of the Medical Missionary Society in China. For the year 1865.

Insanity in its Medico-Legal Relations. By Wm. A. Hammond, M. D. Baker, Voorhis & Co., 66 Nassau Street, New York. 1866.

Discourse on the Life and Character of Dr. Howard Townsend, Albany, N. Y. By R. W. Clark, D. D.

The Physical Geography of the North-Pacific Ocean. By Wm. Henry Doughty, M. D., Augusta, Ga. 1867.

Luxation of Femur. By Lewis A. Sayre, M. D., Surgeon of Bellevue Hospital, New York. 1866.

Insanity and the Criminal Responsibility of the Insane. By Thos. Moore Madden, M. R. J. A., Dublin, Ireland. 1866.

The Treatment of the Lower Jaw. By Thomas Brian Gunning. New York.

The Relations which Electricity Sustains to the Causes of Disease. By S. Littell, M. D. Philadelphia. 1866.

The following Exchanges are regularly received: The Atlanta Medical and Surgical Journal; Boston Medical and Surgical Journal; Braithwaite's Retrospect; Buffalo Medical and Surgical Journal; Chicago Medical Journal; Chicago Medical Examiner; Cincinnati Lancet and Observer; Druggist's Circular and Chemical Gazette; Galveston Medical Journal; Journal of Applied Chemistry; London Lancet—Original and Reprint; New York Medical Record; Nashville Journal of Medicine and Surgery; New Orleans Medical Journal; New York Medical Journal; Pacific Medical and Surgical Journal; St. Louis Medical and Surgical Journal; Savannah Journal of Medicine and Surgery; Southern Journal of the Medical Sciences; Southern Medical and Surgical Journal; The American Journal of Pharmacy; The American Journal of the Medical Sciences; Dental Cosmos; The Detroit Review; Philadelphia Reporter; The St. Louis Medical Reporter; Le Mouvement Medicale, Paris; Journal de Medecine Mentale, Paris; Medical Press and Circular, Dublin; Revue de Therapeutique Medico Chirurgicale, Paris; Revue Medicale, Paris; Cincinnati Journal of Medicine; Canada Medical Journal; Journal of Materia Medica; The Ophthalmic Review, London; Dublin Quarterly Journal of Medical Science; Medical Mirror, London; Debow's Review; Littell's Living Age; The Farmer; London Punch.

AGENTS.

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The Richmond Medical Journal.

Vol. III. March, 1867. No. 3.

ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—THERAPEUTICS. By SAMUEL HENRY DICKSON, M. D., LL. D., Prof. of the Theory and Practice of Medicine, in the Jefferson Medical College, Philadelphia, Pa.

There is no function or office allotted to and performed by man, more elevated and important, than that of relieving the suffering and promoting the health of his fellow-men. I except none. The objects and purposes of the Religious Teacher, the most worthy object of comparison, and those of the patriotic ruler and law-giver, are truly noble—of the first, indeed, little less than divine; but they are only aims, impracticable, visionary, unsuccessful. History shows, and experience daily illustrates, the inefficacy of their laudable efforts and the unavailing feebleness of their influence, even when exerted, as is not always the case, in the right direction.—Crime is as rampant and irrepressible as in the days that are past, and all forms of Piety are found as superficial as ever, and as ready to yield under temptation and opportunity.

Meanwhile a steady and unquestionable progress of improvement has been and is still going on in regard to the physical well-being of our race; and if civilization does bring in her train certain new modes of infliction and increased susceptibilities, she does not fail to offer, sooner or later, from the resources of her ever-advancing Science, consolatory methods of correction, palliation and compensation.

It is truly gratifying to record the concurrence in these views, of one of the profoundest thinkers of our day and generation. We find Mr. Carlyle expressing his opinion of "the profession of the Human Healer" as "being radically a sacred one, and connected with the higher priesthood, or rather being itself the outcome and acme of all priesthoods, and divinest conquests of intellect here below—as will appear one day."

The ultimate object of all our studies is the Prevention and Cure of Diseases. In the beneficent labours of our modern Hygienic institutions, philosophers, legislators and philanthropists share largely with us; our exclusive duty lies in the persevering pursuit of Therapeutics—the Art of Healing. It is incumbent on us from time to time, to engage in an extensive survey of the field which spreads itself before us; to review the results that have been arrived at; to lay down for ourselves farther definite aims, and to inaugurate properly, the exertions necessary to their attainment, to choose the correct course of proceeding, and understand clearly as well what is feasible, as what is to be desired. All things are not possible in themselves, however much they may seem within our reach; many things are impossible now which we may hope to grasp at some future time; many things are only possible to those who enjoy special opportunities for their attainment. These self-evident truths should be brought to the notice of the zealous young aspirant for his benefit and warning; not to damp his ardour, but to set limits to the scope of his ambition, that he may not waste his strength and fall into despondency from disappointment. He must not be encouraged to indulge unreasonable expectations. As it is notoriously in Meteorology, so also in our Biological studies, the elements are numerous and diversified to such a degree, and subject to such infinite variety of combinations, as to defy every attempt to arrive at uniform or precise conclusions. Every movement, doubtless, follows exact rules, but of these our cognizance is partial, and as we have not yet acquired clear or available knowledge, we shall often meet with unexpected and seemingly capricious incidents.—But there is no caprice in Nature: all is governed by inexorable law; we have to deal with neither miracle nor chaos; and herein lies our hope of progress, our inducement to exertion.

We have been engaged in the consideration of the nature and history of disease, the causation of diseases, and of some of their most striking characteristic phenomena. Let us now reflect, and inquire whether in all that we know upon these points, we can find any satisfactory deduction, any relevant suggestion as to the modes of relief, from the sufferings we have been contemplating. We may pretermit here all discussion of the various theoretical and hypothetical doctrines of the so-called "Schools of Medicine;" their solidism and humoralism, empiricism and scientific methodism, their allopathy and homœopathy. There underlies all these superficial debates a more profound and catholic philosophy, which, if we can make it our own, we shall find a safe guide; but it will not lead us, be sure, into any exclusive views. The faithful Physician will avail himself, in his interminable contest with physical evil, of every weapon in the medical armory, indifferent whether it acts by similar or opposite impression; nor will he concern himself, even with the question of quantity, farther than to be certain that he is not on the one hand drawn into dangerous excess, nor on the other held back by timidity from the employment of whatever may be requisite for obtaining the effect sought.

When he chooses entirely to abstain from interference, for whatever reason, he will simply wait or "expect," without holding up before him the false mask of an imbecile trust in mythic "potencies," or infinitesimal divisions of dose. Nor will he be deterred from the use of any means fitted to his purpose, by the fact that charlatans or impostors have adopted it, and endeavoured at its special appropriation.

Our first and most ready division of the causes from which arise the host of maladies that afflict us, separates the Incidental from the Specific. This seems to me to indicate, at once, a corresponding distinction in our Therapeutics, as in diseases themselves. In the first class, produced by the impression of those agents which sustain our lives—air, heat, food, &c., as their influence is both indispensable and inevitable, we must content ourselves with the effort to regulate it. We direct this effort against their excess or deficiency, or unadaptedness or abnormal variations; or we bring appropriate measures to bear upon the condition of the subject, his strength or

weakness, his susceptibility. Many of the most serviceable advances of modern medicine have been made in this field and many abuses corrected. It has become less common to apply and misapply drugs of the most active force and the most specific character in the management of the most simply incidental maladies. We are not so familiar with the promiscuous administration of antimonials and mercurials for every casual disorder of the digestive organs, "bilious" they are styled, and every catarrhal attack.—We have been taught some sharp lessons as to our sphere, active and acquiescent, in this absurd and reckless mal-practice. The "Medicine Expectante" school, and its caricature, Homœopathy, well described as being "not anything, so much as a nothing which looks like a something," have furnished us with irrefragable proofs that there was here a frequent if not habitual infliction of useless additional annoyance, at least, not rarely perhaps of positive injury to the unfortunate invalid.

Yet we must not submit passively to the censures heaped on us, nor receive without examination, the statements brought forward to our discredit. Allowance must be made for almost inevitable exaggeration: we must endeavour to discriminate between the actual and the seeming, the real and the apparent—discrimination often so difficult as to justify fully, Cullen's severe and paradoxical dogma, that "we have in medicine more false facts than false theories."

The spontaneous faith in the Healing Art, which has grown up so widely among all peoples and in all times civilized, semi-civilized and barbarous, the universal and instinctive resort to varied methods of medication, often fantastic, often harsh and painful, can scarcely be imagined to be absolutely without foundation in the nature of things. Far be it from me to defend, or even excuse, a promiscuous or indifferent employment of agents, possessed of whatever powers. It is the very essence of our Art, the very purpose and object of our Science, to distinguish and appreciate the circumstances and occasions for our interposition; to enjoin abstinence from all blind and indeterminate action; to enforce the restraints of prudence and ensure the guidance of reason and experience. But I will not shrink from saying that reason as well as instinct, and the highest prudence seem to me to justify, or rather to demand an

unhesitating interference—even if simply tentative—where our knowledge and experience fail us, in preference to an inactive, stolid submission. We must examine such contingencies on every side, and surrender ourselves to the dictation of some hopeful analogy, or some plausible, even if conjectural rationale. It is plain, indeed, that without this instinctive, nay, we may call it involuntary, effort and cry for help, there never would have originated an Art of Healing, never existed a divine Science of Medicine, such as we are hopefully engaged in establishing and building up. As a universal rule, in the obscurest ignorance, the most misty doubt, I would maintain that Perturbation is better than Inaction; in the former, there is hope, even if we incur unavoidable dangers; in the latter nothing but blank despair—unpardonable acquiescence in suffering and injury.

With regard to the critical examination and cross-examination, which I have insisted on, previously to the reception of the documents presented us for instruction and reproof, none can deny our right to make it thoroughly searching. Yet it is a very delicate matter to say what is necessary to be said on this point. We must take into the account, as far as they can be ascertained, not only the intellectual, but the moral status of the witness; not only his competency but his bias, his opportunities, his surroundings.—Tables of statistics, it is well-known, can be produced to prove almost any thing; and as no two truths can really conflict or contradict each other, we shall often be forced to hold our belief suspended between opposite statements, from authorities of equal or unknown weight. Nay, we are sometimes compelled to the disbelief of alleged facts by an irresistible course of reasoning, as we reject and throw aside—in many instances by common consent—the apparently strong evidence of an impossibility, a modern miracle, a ghost, a clairvoyance.

Sometimes we receive the bare assertion, but repel and refuse the inferences linked with it, and demanding to be also accepted. For example: Prof. J. H. Bennett, of Edinburgh, claims to have achieved uniform success in the treatment of simple Pneumonia.—His personal authority is sufficient, and we will not deny or dispute his asserted claim. But we are not prepared to yield our assent to

the corollaries deduced therefrom, which may be set down thus: that Pneumonia is not in itself a dangerous or fatal malady; and that Prof. Bennett, having ascertained this fact, has indicated a forbearing and cautious method of management of patients labouring under it, which is incomparably preferable to all others, if not absolutely infallible. I would by no means impute to Prof. B. the alternative inferences which he has been charged with suggesting, viz: that Pneumonia is a serious disease, and that he alone has found the proper method of controlling it. I say that while we must not reject his statements, we may stop short, with the mere acceptance of them, declining to be led on from them into any hasty generalizations, any dogmatic conclusions. In looking over the bills of mortality everywhere published, Pneumonia will be found to occupy a conspicuous place on the list of the assigned causes of Death. In cold and temperate climates indeed, it holds a position inferior only to that of the great destroyer—Phthisis. Let us see. I have before me, unselected, the mortuary statistics of the City of Philadelphia for the years 1863-4-5. In 1863 there are 743 deaths put down to Pneumonia; in 1864 the number is 929, and in 1865, 776; making in those three years the large total of 2,448. Only two other named maladies compete with it in amount of destructiveness—Consumption, its congener and sometimes its sequel, 6,064; and Cholera Infantum (a wide word), 2,455. "Circular No. 6," a document the preparation of which does great credit to the compiler and to the War Department, informs us that in the first two years of the late war, the deaths assigned in the Army Reports to Pneumonia, amounted to 8,090, a mortality of about one in every $4\frac{1}{2}$ cases—appalling enough, but less than that of the British troops in the Crimea, one in every 3.6. In Ramsey's valuable Tables of the mortality of the City of New York for thirteen years, we find 15,138 ascribed to Inflammation of the Lungs, while Consumption claims 37,000; Convulsions, Marasmus and Cholera Infantum, vague designations, are the only other named maladies that rank above it.

Now, one of two things must be true on a large scale: either Pneumonia is in itself a dangerous and often fatal disease, or the great mortality attributed to it, must be the direct result of the

mal-practice of the Physicians who report the deaths. *The patients must die, either because of, or in spite of, the treatment followed.* It is impossible for me to assent for a moment to the humiliating and offensive conclusion, thus distinctly suggested. I have been so unfortunate as to have lost more than one case of Pneumonia in my busy life; nor will I subject my brethren to such a sweeping declaration of incompetency and error, which I fully believe to be altogether unmerited and misapplied.

This is a strong illustration of the dilemma in which we are often involved. My mind finds rest *in this position;* to which, indeed, I have been so frequently driven that it is now habitual and fixed. I question no man's veracity, as I will not submit my own to question. I take the facts as presented by the reporter, for what, in good faith, they seem to him. But I am looking upon them from a different stand-point, and see them in a different light. In my analysis I judge for myself of his competency to observe, to distinguish, to record. I note critically the manner and spirit of his communication; I weigh cautiously and make allowance for any detected bias from preconceived opinions; the warpings of his vanity, his interest, his ambition; and after all, I decide according to reason and my best judgment. For, as no amount of evidence can establish or prove what is impossible, so, it is not in me to believe what is incredible.

We have heard, before a great Medical Association, of hundreds of cases of Scarlatina treated by one country Practitioner, in his special method, without a single death. Our Journals mention the presentation to a distinguished Physician not long deceased, of a silver vase, on which was engraved an inscription, purporting that more than three hundred cases of Asiatic Cholera—a large proportion of which were negroes, notoriously bad subjects of this dreaded pestilence—had been treated by him without any fatal accident.—These histories may be collated with Bennett's cases of Pneumonia, and Hasting's account of his success with Yellow Fever, as mentioned in La Roche's great work. It would be idle, if not impertinent, to investigate the details of such Reports as these. We would not, if we could, prove a negative here, and lawyers and logicians warn us of the difficulty of the attempt. There is a gross carica-

ture, yet not without some likeness to such statistics, in the advertisement of an irregular Practitioner, who, after ascribing prodigious powers to his formulæ, and reciting their varied and marvellous triumphs, wound off with the formal challenge—"If these things be not true, let the contrary be proved!"

Exaggeration of the efficiency of medicines and medical treatment is generally presented in the style of *eulogy* by some enthusiast, self-deluded or deceived by favourable coincidences; for I will not speak of the mischievous falsehoods emanating from ignorant pretenders, with base motives of selfish advantage. I have before me a work from the hands of a distinguished Physician, of "the Modern Athens," recently issued, out of the open page of which I copy the following pithy and dogmatic phrases: "Many a child have I seen die from nothing but the mother's not liking to make her swallow a powder, or put on a blister; many a life is lost from this." He tells us a story of his being sent for to a village where "malignant cholera had broken out with great fury." Summoning the people together, he explained the mode of invasion by preliminary or premonitory stages, and asked them all whether they had any of the symptoms. "They all denied having any;" I knew, he says, "they were not telling the truth, and I made every one take some of this medicine—producing a bottle of simple and cheap physic, only one woman going away without taking a dose; she was the only one of all of them who died." I do not know in what language a positive faith in drugs can be more strongly expressed. Yet, we shall find, looking back a little way in the same volume, a pleasant anecdote of a rustic to whom he had given a written prescription. The stupid fellow "*took this*" literally, swallowing the paper, ink and all, and was promptly cured.

We must not forget, however, that there is another and contrasted form of exaggeration, which deals in menace and invective. The degree to which this is carried, is so absurd that it would be absolutely ludicrous, if it did not concern matters so serious as human life and health. Mercury and the lancet, blindly worshipped so long, are not only dethroned, but angrily expelled by the modern iconoclasts, whose denunciation of these time-honored remedies, is loud and violent. One of our English brethren, in his

humorous wrath, characterizes the old and dangerous proceedings, so long familiar in the following terse and forcible phrase: "A. B. caught fever—took calomel, bled, blistered, died." Our friend quoted a few lines above, would perhaps have written in a different spirit: "A. B. caught fever—refused to swallow a powder, or be bled, or blistered—died on the spot."

Every body knows that thousands, with reason or against reason, have gone through this dreaded routine, in its most stringent severity unharmed; recovering, whether because of it, or in spite of it—who shall decide? I do not recommend, or even defend this methodus medendi, which is by no means my favourite course, I simply state the fact. Happily for us and for themselves, patients are not so easily "done to death." They survive in large proportion, the loss of blood and other heroic practice, even including ptyalism. And when they die at last, it is not, certainly in the vast majority of instances, of the remedies, whether well or ill-chosen, but of the disease.

Let me not for a single moment be suspected of indifferentism in this matter. Short of absolutely putting an end to life, injudicious practice may be extremely injurious. There is a vast difference between the right and the wrong method. How much harm may be done by an unskillful, unwise Physician, it is impossible to compute; but it results not so much from his selection of medicaments, as his incompetency to employ them properly. We say truly, omnia sana, sanis; we may say with equal truth, "every thing is safe in the hands of the prudent man."

Some have maintained the impropriety, as a general rule, of interferring with the class of Simply Incidental Diseases, now under consideration, because they will, in all probability, subside and disappear with the removal of their usually transient causes. I would not go so far as this. It is our duty, as it is almost always in our power, to diminish the violence, even of these maladies, to shorten their duration, and to obviate such tendencies to more permanent evil, as they may essentially or occasionally be found to develop. Yet, if it be the observed course of any disorder, that it is likely to pass away after a known period, without inflicting any ultimate harm, we may watch its progress quietly, interposing only such pal-

liatives as may be called for to relieve some symptom or abate some annoyance. And it should be noted that this passive method may be followed with propriety, if with careful discrimination, in certain cases of the gravest forms of pestilence, in which the cause, whatever it may be, has acted with so little force, or has met with such constitutional insusceptibility, or resistance, as to have made but slight impression. It is a wise and true saying of Schöenlein, that "it often happens to good Physicians to find no indication for treatment—to bad ones, never."

On the other hand, the most evanescent of Incidental causes, such as degrees or alternations of temperature, excess in eating or drinking, or venery, or muscular exercise; all or any of these contingencies, may from vehemence of impulse, or casually enhanced susceptibility, or temporary defect of reäctive energy, impress deeply and dangerously the system assailed, and require for its relief or protection, the promptest, most vigorous measures.

Our ancient and established Therapeutic has been, ex necessitate, to aim at the diminution of the particular force of morbid impression upon whatever part directed, by subtracting from the general force of the functional movements of the entire organism. This was effected by abstinence, rest, cold, local and general bloodletting, cathartics, sudorifics, nauseants and diaphoretics. Revulsive measures came to be added very reasonably, however obscure may have been the first suggestion, and emetics, blisters, issues, moxas were resorted to. And what better means than these have we now within our reach? Many instances present themselves familiarly indeed, in which no others are available, and our only course is this retardation, by such depressing and derivative agents, of the rapidity of the changes going on under morbid excitement of whatever varied character.

In this proceeding we follow the promptings of Nature. Anorexia is one of earliest and most uniform symptoms of acute maladies in general—we abstract food: there is thirst, with heat; we dilute the fluids and cool the body by ice and iced drinks: languor oppresses the sick—we enjoin repose of mind and body: light and sound annoy and irritate—we darken the chamber and order silence and stillness. Hæmorrhage suddenly bursting forth, has

been productive of instant relief from previous symptoms; Diarrhœa, Emesis, or a profuse sweat breaking out, has been likewise beneficial, and thus we learned V. S. and built up gradually a natural system of Therapeutics, which no hypothesis or theory, no system or school, scientific or empirical, will ever overthrow.

We have been meanwhile seeking earnestly to obtain the power of substituting for these means of universal impression—often superfluous and at least in part irrelevant—agents of more direct, more relevantly local and circumscribed influence, manifesting their force and efficacy, only where and when they were wanted and appliable. It is greatly to be regretted, that hitherto we have not been in any gratifying extent successful. For the relief of a local Hyperæmia, we are still often compelled to subtract from the whole amount of the blood in circulation; for a local pain or spasm we must reduce the entire organism into a condition of anæsthesia or relaxation; disturbing at more or less risk, functions and organs of parts which might otherwise have escaped intact. Yet we are not without hopeful results of experiment in this direction, and find much to encourage us in the atomizing application of remedies, the bold injections and insertion of instruments into the respiratory tube, begun by Green, and in the increasing resort to hypodermic medication and the local anæsthetics, such as Rhigolene, both in Surgery and in Medical Practice, strictly so called.

I take the occasion to remark here, that the active general remedies, above spoken of, require to be employed at the present day, with more reserve than in times past. I am one of those who believe and maintain that great and decided changes have taken place during the last half century in the general type of diseases, both incidental and special, or in the condition of the human constitution, or, most probably, in both. The Sthenic, formerly paramount, has progressively yielded to the Asthenic type. Not that either ever prevailed to the exclusion of the other; our predecessors recognized both, but wrote and acted on the assumed general predominance of the Inflammatory over the Adynamic, a state of things which we find in a certain sense and degree modified, if not reversed. If my observation and experience, enduring through

the above specified period, have clearly satisfied me of any one point in the Natural History of Diseases, it is this.

We are often tauntingly called upon by those doubters of the wisdom and common sense of our ancestors, who differ from us and deny that any such change has taken place, to fix the date of its occurrence. It began to be manifested certainly more than forty years ago. The time of invasion of Typhoid fever has been ascertained, when, in this country at least, it forced itself upon the attention of Physicians, and substituted progressively, and rather gradually than rapidly, the Adynamic for the Inflammatory character of our pyrectic affections, mingling with, rather than abruptly displacing, where they had been prominent or exclusive, our malarial fevers.

As a student of Medicine at that period, I will avow that I was not unobservant, as my earliest writings will show, of the necessity which had come upon us, of modifying the energy of the antiphlogistic or depletory practice then in vogue. My most intimate professional friend, educated under Rush, rarely omitted the use of the lancet in the treatment of the Phlegmasiæ or other febrile disorders. Comparing the result of my more forbearing course with his, I became fully persuaded, that even if I could not boast of fewer deaths among my patients, they suffered somewhat less in constitution and recovered more readily.

All who are old enough to recall the history of that bygone time, will remember that Constipation was far more uniformly an annoying element in fever than it is now. Cathartics were invariably administered among the first remedies, and it was often difficult to obtain their proper effect. At present, and indeed for a full generation looking back, a very different condition prevails. To the question when this change manifested itself, two replies have been given. Many of my medical associates are unwilling to go beyond the invasion of Cholera, which, coming among us in 1832, left, they affirm, an impression which has been permanent upon the general character of our diseases in this respect; exciting an obscure and indefinable influence, either upon the constitutions of our people, or by mingling and combining with the causes of our other maladies, indigenous or endemic. I am inclined to agree with them in

the positive clause of the opinion thus expressed and admit the influence of Asiatic Cholera, but I believe that the change was apparent long before, being coincident with the introduction and spread of the Typhoid, Enteric or Abdominal form of fever.

My preceptor, honoured be his memory ! a zealous pupil of Wistar and Physick, and Rush, a most sagacious and successful Practitioner, who, through a long series of years, enjoyed the highest reputation and carried on the largest and most lucrative professional employment that ever fell to the lot of any private Physician in this or perhaps any other country, made familiar and free use of the Lancet, as all doctors then did. But his therapeutical specialty lay in his dependence upon Purgatives. All cases that fell under his care—with exceptions so few as not to be worth noting—were indulged with some cathartic formula at the very beginning, and great numbers were carried through a febrile or inflammatory attack into convalescence, upon the same method, modified pro re nata. We, the inmates of his office, serving, each in his turn, passed whole days and evenings, not seldom far into the night, in the preparation of prescriptions, nine in every ten of which were cathartic formulæ. It may be well to say here, that at the period I write of and in that section of our Country, it was the custom to make up the prescriptions of Physicians at their own offices, and that it formed a very valuable portion of medical education, that thus the student became familiar with drugs and formulæ.

I have said that the gentleman spoken of, was successful in every sense of the term, eminently so, as must be inferred from the lofty and long-enduring estimation which he enjoyed, both among his brethren and his wide circle of clients. Yet, had he lived but a very few years more, he would have been forced, nay, he would of himself promptly recognized the necessity to make a great change in his accustomed methods of treatment. I had not, I well remember, more than barely entered upon the responsibilities of practice, before I became aware that the class of remedies, which I had been so assiduously engaged in preparing and administering, were not demanded so generally, were not to be used so freely, were not unfrequently ill-borne and injurious, and that it was incumbent on me to resort to them with a certain degree of reticency and reserve.

Yet they have held, and will always continue to retain a prominent place in the early management of fevers generally, as well as of many other acute affections.

A similar transition of views was going on coincidently, as regards Venesection, and even more rapidly. It was the more marked, because under the teachings of the illustrious Professor of Practice, in the University of Pennsylvania, then the centre of medical instruction in our Country, lavish and almost promiscuous blood-letting had become the "order of the day." The very equivocal, but indispensable argument, cutting with double edge, and convenient alike to sustain truth and error—"*post hoc, propter hoc*"—so fearlessly wielded by the ignorant pretender, so casuistically repelled by the undiscriminating sceptic, soon came to be absurdly applied here, as indeed it is still, and as all recoveries after venesection were formerly recorded as triumphs of the lancet, so now all deaths preceded by it were set down to its charge. I have stated my unequivocal opinion, that a change had taken place both in the prevailing types of disease generally, and in the constitutions of the subjects—both of them having become comparatively asthenic or adynamic; and of course, the loss of blood, like other methods of depletion, was less required, and not borne so well.—Hence, venesection fell for a time into almost absolute disuse, and Physicians soon ceased to carry lancets about them; nay, I know several who have attained middle age without ever having handled such an instrument.

Farther, I will remark, that I look upon this specified constitution of diseases and subjects, as having culminated some years back and to be passing, or to have passed away in some measure. I do not know—I scarcely suppose—that Cathartics are more demanded, but I am satisfied that depletory measures of every other character, venesection especially among them, are coming again, not only more into fashion, but are really more frequently called for and better adapted to the general requirements of ordinary practice. We have ceased to be burdened with the recently prevailing timidity as to the lancet. Even if we are mistaken in our belief that we have past through the adynamic cycle, and in the advent of a new phase less asthenic, surely the experience of our late cruel war has

proved, that under the most depressing contingencies of imperfect nutrition, shelter, ventilation, clothing, the loss of blood is far less impressive for evil than has been supposed; and we will hereafter bleed a patient in a doubtful case with vastly less misgiving, and offer him much more readily the chance of a reasonable experiment, the *anceps remedium*, which may require courage, but which, as I have maintained, we are bound to prefer to abstinence or inaction.

During the period of which I have been speaking, professional orthodoxy, ever ready to swing from one extreme to the opposite, repudiating the lancet of Rush, the leeches and gum-water of Broussais, and the purgatives of Hamilton and Piedagnel, progressively attained the comfortable confidence in sustaining and stimulant medication shadowed forth by Brown, and carried to its height by Todd. The reign of this system has been short however, and the vibrating pendulum seems to have settled down for the moment at what we call, after Chambers, "the restorative point," a little above the *medicine expectante*. It is well represented by Chambers and Bennett: a little and careful depletion, sometimes by a mild laxative, it may be an early emetic—a wet cup occasionally, or two or three leeches—a revulsive plaster, and in a severe attack a blister perhaps—an emollient poultice certainly—cod-liver oil, quinia and iodide or chlorate or bromide of potassium. This is all very well, and entirely unobjectionable; presents no appreciable risk to the sick man, and is very safe for the attending Physician, who by this course avoids all chance of being accused of the death of his patient, if he does not recover. Following some such method in our habitual routine of business, as the great majority will, and prudently too, let the young Physician be warned not to fall into any relaxation meanwhile of due attention to the varying conditions of the cases under his care. Some one among them may suddenly grow worse; aggravations of symptoms may happen, which will not bear neglect, while it will ruin him not to have observed or appreciated duly, and which may demand prompt and energetic action.

Medicine, it should never be forgotten, is both a science and an art, and it is difficult, if not impossible, to offer to its votaries, eager to learn and to know, a satisfactory detail of the principles, rules and reasons by which they are to be guided in practising it.

Arnould says truly, that "the whole of every science may be made the subject of teaching; not so with art, much of which is not teachable." One of our most distinguished brethren has described Physic as "one of those departments of knowledge, in which there is frequent necessity for the exercise of an incommunicable faculty of judgment, and a sagacity which may be called transcendental, as extending beyond the combination of all that can be taught by precept." It is so, indeed, with all arts which, like ours are based upon what Whewell calls "the mixed and applied sciences." The painter may thoroughly inform his pupil in the rules of perspective and the harmony of colours; but all this will not enable him to produce a picture. Of two men, one may be master of the principles of gunnery, the other comparatively ignorant of them; and yet the latter shall make the best shot. Harvey was emphatically the scientific Physician of his day; his contemporary, the "rebel Captain" Sydenham, the great Practitioner; and a late antithesis of the same kind, has been suggested as between Sir Charles Bell and Abercrombie, the modern Sydenham. Coleridge, referring to medicine as a "Tentative Art," observes that "there is always a great deal that is mysterious in whatever is practical." The Hindoo smith extracts from his ores by his scanty, coarse, and blind methods of working, an iron superior in itself and fit for making a better steel than the most skillful metallurgists of scientific Europe can equal.

The class of Specific Diseases, our Endemics, Epidemics, our pestilential and malignant maladies, arise, or are assumed to arise, each of them under the influence of some definite poison; some morbid agent of characteristic properties. Such are Plague and the extensive group of Typhic and pernicious fevers, the Exanthemata, Asiatic Cholera, Diphtheria, and our familiar Intermittent and Remittent. The list may with propriety be largely extended. Careful investigation has led us to a more or less probable conclusion as to the nature of some of these poisons; we have not attained demonstrative certainty concerning any one. It is alleged concerning a few of them, that they are parasitic; vegetable as Salisbury maintains Ague and Measles to be; Animalcular—with or without Vogel's semi-individuality—psora, trichiniasis and Vir-

chow's cells; others neither cellular nor parasitic; as the ærial contagions of Scarlatina and Pertussis. I am aware that such knowledge as we possess on these points has thus far been barren; "luciferous" merely, in the phrase of Lord Bacon "not fructiferous." I know also, that our Profession, while admitting the specific character of the poisons which generate so many diseases, have been reluctant to make that admission the basis of any extensive therapeutical aims or purposes. Nevertheless, it is in this direction that I am disposed to look with the most hopeful anticipations of the future usefulness and glory of the Divine Art of Healing.

I am not one of those who refuse to acknowledge specific, or, in the strictest sense, antidotal powers, as belonging to the articles of our Materia Medica, and who represent "rational medicine," as regarding only the physiological properties of the tissues and organs, and their varying conditions as to excitement and irritation, anæmia and hyperæmia, tension, spasm, relaxation, &c. I recognize one at least of our drugs, Cinchona, with entire confidence, as a specific in the truly antidotal sense. Since there is one such article in our hands, we may reasonably hope to discover others. Indeed, I think that we might class here one or two in addition, but they are all disputed, and I am not inclined to enter into the controversy. Salisbury denies the quality of antidotal specificity, even to quinia, our most prominent and strongest example, while he admits its direct efficacy in controlling the morbid influence of the malarial poison. "Quinia is not, strictly speaking," he argues, "a curative or specific agent, but simply acts beneficially by controlling cryptogamic development, and imparting such tonicity to the organism as enables it to resist the paroxysms, until aided nature can cure the disease by eliminating the cause." And again: "it braces up the system, and controls cryptogamic growth, till nature can effect a cure by eliminating the material cause through the skin, the mucous surfaces and kidneys." I am very reluctant to yield up the claim of this, our most admirable medicine, to be considered positively, strictly and emphatically antidotal. In fact, the point seems to me to be virtually conceded by Prof. Salisbury himself. He more than once employs the phrase, "controls the growth of the cryptogam"—"controls the cryptogamic develop-

ment." How can it effect this? If directly by a property peculiar to itself and independent of its asserted tonic qualities, which seem unadapted to the purpose, surely this is being specifically an antidote. It braces up the "system," he tells us, "and imparts such tonicity to the organism, as to enable it to resist the paroxysms," but we are not told how this is to affect the palpable and present cryptogam. And I object to the vagueness of the language—a charge very rarely to be brought with justice against Prof. Salisbury, as expressive of indefinite conceptions: "bracing up the system; imparting tonicity to the organism;" I confess that I have not a clear idea of what these phrases mean. If quinia be a direct tonic, which I seriously doubt, it is inferior in that property to others which are not imagined to be appropriate here. Its unequalled promptness of efficiency; its striking action of apparent arrest in the worst "congestive" cases, deserve to be particularly dwelt on. Its virtues are equally displayed when administered hypodermically as when received into the stomach. No other drug is employed thus, and in such small quantities to relieve debility or prostration; nor is any other tonic, mineral or vegetable, gifted with its most beneficent prophylactic influence.

Observe too, that its modus operandi, assumed here to be "bracing and tonic," is much disputed and as yet unsettled. We may ask, indeed, what do we know of the modus operandi of any one of our drugs! There are as many who pronounce it sedative, as there are who regard it in the light of a stimulant or tonic.—"Calmant" is the term applied to it by Drake. Experiments made to determine its properties are instructive chiefly in a negative sense. A single grain, two grains, three or five, will suffice to arrest the course of an intermittent, which would resist or evade the energies of all our other most potent medicines. Yet, the same quantity, or four times as much, will stir up no disturbance in a healthy system; will not derange the pulse, nor the breathing, nor the temperature, nor disorder the mind in any way.

It is but the other day that accident afforded me an opportunity of repeating this observation. A young girl, æt. 13, being constipated, but in her usual health, took from the hand of her mother a heaped-up-teaspoonful of Sulph. Quiniæ, instead of Husband's

Magnesia. The mistake being at once discovered, I was applied to. Having quieted their alarm, I placed the child in a recumbent posture, and sat by her, watching her attentively, for more than four hours. At short intervals, I examined her breathing, pulse and temperature, making exact notes of her condition in every perceptible respect. There occurred nothing whatever, absolutely nothing to report, beyond the well-known subjective phenomenon of buzzing in the ears.

We hear sceptics frequently demur as to the alleged remedial influence of some article in some specified case of disease, that it can be administered in the same amount to a person in health without appreciable effect. This is true of many medicaments besides quinia, as of bismuth, zinc and of arsenic in moderate dose; but the practical Physician finds here no ground for objection, or doubt of their value as relevantly curative.

Prof. Salisbury, not content with impugning the antidotal virtue of quinia, goes to the paradoxical extreme of asserting, in plain terms, that "in many instances it really aggravates the paroxysms." Now, if the paroxysms depend, as he has taught us, upon cryptogamic development, and are favoured by debility, it is difficult to comprehend how they can be aggravated by an agent which controls cryptogamic development," and at the same time "imparts tonicity to the organism."

Latham, on the contrary, dwells with a rational enthusiasm upon the unparalled specificity of Cinchona. "With it alone we *cure*," he exclaims, "fevers of malarious type; we *treat* all other diseases." We ask no farther question concerning such cases than as to their nature, history, and probable cause; and then without delay, without reference to surrounding conditions, abandoning of late even the once familiar ceremony of "preparing the patient for the bark," we administer our drug. We expect it to resolve congestion, to subdue inflammation, to tranquilize irritation; and it does all this and more. Not infallibly however; no infallible remedy exists—no infallible course of treatment. Men die every day in great numbers, of curable, as well as of incurable maladies; of Pneumonia and Diarrhœa, as well as of Cancer and Tetanus. We can as little explain its occasional failure, however, as its almost uniform success.

I must not omit to notice the striking views on the subject opened to us of late, by the discovery reported to the Royal Institution of Great Britain, of a substance closely resembling Quinia in the textures of animals, hence called "Quinoidine," by its discoverers Drs. Bence Jones and Dupre. They dwell on its analogy to the alkaloid in its chemical properties, and in its remarkable fluorescence under electrical light—the emission of light, as by fluorspar when treated. It is singular that they would altogether ignore Headland's previous assertion of the existence of such an element in the blood. "Among the natural constituents of the blood" he says, "there is a substance which chemically resembles a true alkaloid like Quinia; and this similarity admits of direct application." "Quinia and other vegetable principles," he goes on, "resembles a certain principle in the bile; they tend to cure certain diseases which depend on deranged hepatic functions." He even anticipates their therapeutical inferences, and asks if these agents may not supply in the system the deficiency of the bile products, and thus prevent the action of the ague-poison." Their course of deductive reasoning is as follows: "Assume that a substance like Quinia exists in health in the textures; can its rapid destruction and removal, through the action of the marsh miasm, give rise to ague? Does Quinia cure ague by furnishing a substance which retards the changes going on in the textures? The incoming quinia probably causes—thus and by arresting the oxidation of the natural fluorescent substance—an actual excess in the textures"—whence the quininism, deafness, &c., &c. They go on to offer some pregnant suggestions in marked conformity with views which I have long been engaged in teaching. "If the circulation can carry alkaloids, as experiment proves with quinia, every where through the textures, even pervading the non-vascular tissues, such as the crystalline lens, is it not reasonable to suppose that medicines pass through the blood and act on the textures? And may we not expect that among the multitude of new substances which synthetic chemistry is now forming constantly, some medicines may be discovered which may not only have power to control the excessive changes of the textures in fevers and inflammations, but may be able to remove the products of insufficient chemical action, even in those diseases which effect the

non-vascular textures as, for example, in Cataract and in Gout?" Let us indulge these hopes which, if ever carried out into fruition, will present us with an available armory of Antidotal specifics.—Why should we not succeed in finding antidotes for the poisons causative of disease, miasmatic, ochletic and contagious, as well of the poisons familiar to us in the Materia Medica and in Toxicology? In the tolerance of energetic drugs under particular contingencies, do we not trace by analogy the antidotal antagonism, whether static or dynamic?

A man bitten by a rattlesnake will drink, without intoxication, an incredible quantity of alcohol, as also in some fevers of low type. Tetanus enables a patient to bear, alas! how often uselessly, an immense amount of opium, with not even an approach to narcotism. It can scarcely be doubted, that much knowledge on this subject has been attained and lost, or allowed to be laid aside unimproved. Dr. Ellenberger, Aide Naturaliste of the Museum of Natural History, at Prague, directed his researches to this department of inquiry, and had made remarkable progress. He was in the "habit," says Dr. Miniere, who visited him in company with the distinguished Toxicologist and Dean of the Faculty of Paris, Orfila, "he was in the habit of swallowing, in presence of professional men, large quantities of the most virulent poisions, after having taken some counter-poison previously. We saw him take nearly twenty-five grains of the acetate of morphine. After the interval of more than a minute," which Dr. Miniere assures us, seemed very long to him, "Dr. Ellenberger deliberately took from his pocket a paper containing a whitish powder, in amount nearly equal to the Morphia, offered it to Orfila to taste, (who found it very sweet) and then swallowed it, continuing to walk about the museum and converse with them." Among other deadly poisons, he has been known to take with impunity, we learn on the same authority, from three to three and a half grains of pure strychnine. Every friend of humanity must regret the untimely end of this heroic experimenter, who was one day found dead, doubtless of the effect of some poison, whose antidote had failed of effect. Still more must we regret that he has left behind him no record of the researches made with such horoic zeal, such dauntless courage.

We know, however, at present, so little of the intimate nature of the several specific poisons which produce our diseases, that we are not prepared for any other than merely tentative or empirical efforts at the employment of counter-poisons. One we do know and confide in. Armed with cinchona and its salts, we venture as fearlessly to expose ourselves to malaria, as did Dr. Ellenberger to his strychnine and morphine. Clothed with the panoply of vaccination, we bid defiance to small-pox. Did the ancient Psylli, do the modern snake-charmers of India, possess any prophylactic against the venom of the cobra and the viper? The old notion of the existence of any general counter-agents of this protective character has been abandoned altogether, and bezoars and mithridates, once objects of such blind faith, are now no longer sought for. But the search for special safeguards and remedies continues and must go on. Scientific pathologists are disposed to regard many of the causes of disease—miasmatic and ochletic, as well as contagious—as possessing an individual life, cellular, animalcular or fungous. Why may not this life be extinguished? We know many paraciticide agents. The algæ and fungi of the microscopists must be exterminated, the cryptogamous sources to which Mitchell and Cowdell and Salisbury ascribe ague and cholera. We must find means to destroy animalculæ, whence we have trichiniasis and psora, and according to the suggestions of the sagacious Holland and Pacini and Thompson, the fearful Asiatic pestilence. Are we not effecting something in this way, by the application of our disinfectants, chlorine, the mineral acids, high temperature and ozone?

But as the evil agencies which originate our Endemics and Epidemics may not be parasitic, or endowed with vitality individual, or to use a word of Vogel's, "semi-individual," as many of them would not seem to be impressive in their appreciable characters, chemical or mechanical, affecting us dynamically not statically, we must search also, most assiduously, for dynamical counter-agents. I would illustrate my meaning by a reference to the employment of Belladonna to relieve the narcotism produced by opium. Corrigan, dwelling on the fact that one of them causes the pupil to contract and the other dilates it, conceived the idea that their general influences upon the organism, and especially the nervous system,

might be similarly in contrast and opposition. It is now widely believed that we place a reasonable confidence in either of them, as against the other. For like reasons, it has been inferred that chloroform is antidotal to strychnia. Most of the non-parasitic poisons are obviously and profoundly sedative, and the analogy which has led us, from the usefulness of alcohol in snake-bites to the large employment of stimulants tentatively, has not been altogether unfruitful. But even Todd was not satisfied with the results, and was led to seek for still more precise guidance in the conditions of opposite electric polarity.

"Confidence is a plant of slow growth" proverbially, and the evidence in favour of any alleged antidote must be cautiously admitted and most critically scrutinized. Yet, from whatever source such evidence is offered, let it not be peremptorily rejected without inquiry. Scherzer informs us that not only vulgar belief in Brazil ascribes to the vegetable drug Assacu, a healing power over the hitherto incurable and loathsome Elephantiasis Græcorum, but that a committee of French medical savans had taken the matter into consideration, and had made a highly favourable report to the Emperor. Our Profession should take warning from the record of its obstinate incredulity as to Harvey's and Jenner's discoveries, and its opposition to inoculation and the administration of "the Jesuit's Bark." One after another, so many of our hopes have been disappointed, so many vaunted specifics have been exploded, that we have naturally fallen into apathy and distrust, from which it is not easy to arouse us, even sufficiently to procure the hearing to which each new promise of benefit to suffering humanity is fairly entitled.

In reasoning of the modus operandi of medicines, we must recognize the wonderful and unintelligible affinity which attracts the several articles to the organs and tissues which are fitted to receive their impression, and on which they are adapted to act; some of them by mere presence or catalysis; others by entering into and modifying the composition of the fluids and textures; some by direct and others by reflex or diastaltic influence. We are also aware of the fact, by empirical observation, as we know all that is known on these obscure points, that no two articles act upon the same organ or tissue in precisely the same manner. It is not, for

instance, a matter of indifference what emetic, cathartic or diuretic we shall employ in any serious case requiring one of these drugs. From this trite axiom we may, however, I think, logically draw an important inference. Homœopathy, whatever there is of truth or practical value in it, derives it all from denounced and dreaded allopathy. It is not the *similarity* which exists between the poison that has caused vomiting or Diarrhœa and that which Hahneman administers to cure it, but that deeper, nicer and more essential *difference* in their mode of action which makes it beneficial. A careless reader might be surprised to read in a letter from Sydenham to his friend, Gould, directions for procuring and encouraging a mercurial ptyalism in confluent small-pox. I do not defend the practice, nor would I repeat the advice; but I find the great Physician here, whether right or wrong, consistent with himself and following the best light of Medical Science in his day, in his effort to substitute a "laudable salivation," as he calls it, for a morbid and variolous one.

This twilight state of our knowledge, and the uncertainties which it involves, call upon us for untiring reserve and prudence, which it is not always easy to keep from degenerating, on the one hand, into timidity and scepticism, or hardening, on the other, into a mere indifferent routinism. An assiduous study of the varying indications presented from time to time—a watchful attention to the progressive course of the malady and condition of the patient—the "Prognosis" so emphatically dwelt on by Hippocrates—so as to be early aware of the "tendencies to death" and on the alert to obviate them, are our urgent duties.

Above and beyond all, it must never be for a moment forgotten that we have under our care, in a state of absolute submission and dependence, a sensitive and suffering fellow-creature. The anguish both of mind and body connected with the great mass of diseases, is apt, I fear, to be most inadequately appreciated, not from want of humanity or sympathy on the part of the Physician, but from a habit of mechanical abstraction too ready to grow upon us, or from absorption in the consideration of the case professionally, or from an overwhelming sense of personal responsibility. In certain instances, the indications of suffering are too obvious to be over-

looked or neglected; in others there are agonies too intense to be endured, forming an unexpressed element of the attack—sometimes significant of urgent danger, at others utterly disproportioned to the actual or impending risk. A distinct and active recognition of his claim upon us for the promptest and largest relief from pain, consistently with his ultimate well-being, is an indispensable portion of every therapeutic. Any indifference to this matter is unpardonable.

In the present state of our Science, a sceptic may be permitted to doubt whether we have the power to arrest a forming malady, or shorten its duration, or determine its final result; but no one denies or can doubt our ability greatly to modify the attendant suffering, avoidable and unavoidable. This beneficent potency of our Divine Art has been augmented very happily of late, and our resources in this kind are every day increasing. Our list of anæsthetics has been enlarged, and new modes of applying them brought into very satisfactory use. The employment of Ether and Chloroform, the two most familiar and powerful of our anæsthetics, has been extended into the treatment of many additional maladies by successful and hardy experiments. The hypodermic exhibition of our narcotics has enabled us to circumscribe, in some degree, their too promiscuous influences, as well as to evade some of their unpleasant effects. The processes of atomization for internal as well as external application of our concentrated remedies, have made them vastly more available. We introduce them into the open orifices by inhalation or intrusion, with strikingly good results in the immediate diminution of pain, which in its external seats we at once extinguish by the Ether spray of Richardson or the Rhigolene of Bigelow. We may indeed exult when we succeed, as we not seldom do, in thus putting an end to, or suspending for a blessed interval, the tortures of Neuralgia, and the burning, lancinating agonies of Cancer.

It is a melancholy reflection that forces itself upon us, whenever we touch on this gloomy subject of Pain, that even in the ordinary circumstances of humanity everywhere, life is found to be rather a condition of endurance than enjoyment to the mass, and that in all ages, and among all peoples, the means of procuring sleep and insensibility, or stupefaction, have been eagerly sought for, highly

prized and deeply indulged in. They are, of course, poisons in the true sense, and may be made available in our Therapeutic.—Tobacco is by far the most extensively used, and must, indeed, possess some property which adapts it peculiarly to the instinctive requirements of our race. It differs from all other narcotics and stimulants, in this, that so far as we know, it is not convertible, like every other among them, into food and nutriment. In concentration its effect is terribly and quickly fatal; but as usually prepared and employed, does so little obvious harm, that all denunciation of it is futile. We are told that two tribes of men can swallow it in substance with impunity. This seems to require confirmation, but the authorities are highly respectable. Wilkes saw it thus consumed by the Drummond Islanders, and Col. Shakspeare affirms that the Indians of the Nylgherries eat it. Not to speak of the several varieties of alcohol, which perhaps nearly, if not quite equal, in number of votaries, those of tobacco, we find opium affording to many millions the solace of temporary tranquillity and freedom from care and suffering. With it the Turk attains his paradise of "Kief," a dreamy state of quietude and torpor; the coarser Chinese plunges into the annihilation of a comatose stupidity; and the reflective Hindoo seeks the cataleptic ecstasy of trance. Tea and coffee, invaluable discoveries of the Arab and Asiatic, are happily spreading over the world their cordial blessings, innocent delights of the domestic circle. Wine, perhaps the earliest known, is now among the most widely diffused, as it is among the least injurious of anæsthetics; I exult in the hope that our Country will, ere long, become a land of vineyards, and that the well concocted and delicious juices of the grape will supersede ultimately, all the rest of its rival beverages—the muddling fermentations of hops and malt liquors, and the hot and pernicious products of the devilish still.

Kawa or Kava, the piper methysticum, as yet a stranger to the higher civilizations, is a necessary of life in Polynesia. Its juice, prepared in Puynipet, by crushing between two stones, elsewhere in most disgusting fashion, by chewing and ejection with the saliva, is said to produce the least offensive of all the modes of narcotism or intoxication, and if the reports be accurate, well deserves to be introduced into our Materia Medica. A complete muscular

relaxation, with drowsiness and soft repose, follow its administration, while consciousness is never entirely lost. The Cannabis Indica, bang or haschisch, is much written and talked of. A gentleman who resided long in Egypt, told me that it was not uncommon for individuals to bring it with them into convivial parties, and take it instead of wine, or punch, or other strong drinks, each being permitted to select his own method of getting tipsy; and that he observed that the haschisch-takers were uniformly in better condition the next day than the rest of the company. The Amanita Muscaria, which retains its intoxicating power in passing through the body, and thus may serve in succession to stupefy the master of a household and all his retainers, the Areeca, the Palva and the Alve each are made subsidiary to this instinctive desire of forgetfulness for millions of Tartars, Mongols, Africans and Americans. Millions more chew the Betel-nut, of which no European has yet given us his personal experience. Scherzer quotes from a Sanskrit poem, the following eulogy of it: "Betel is pungent, bitter, aromatic, sweet, alkaline, astringent; a dispeller of phlegm, carminative, a sweetener of the breath, an ornament of the mouth, a remover of impurities, a kindler of the flame of love. Oh friend! these thirteen properties of betel are hard to be met with, even in Heaven." If it possesses one half of them, we are much to blame for our neglect of it in Western practice.

The Caffres and Hottentots exhilarate and stultify themselves with a narcotic plant, Dagga, and often refuse to hire themselves as labourers on farms unless a portion of land be set apart for its cultivation. It must resemble somewhat the whiskey-root or Peioke of our vast Southwestern plains, of which we find this brief notice in Burton's City of the Saints. "It is a kind of cactus, which grows in Southern Texas on the sand-hills of the Rio Grande.—The Indians eat it for its exhilarating effect on the system, producing the same excitement as alcoholic drinks. It is sliced as you would a cucumber; the small pieces chewed and swallowed, and in about the same time as comfortably tight cock-tails would 'stir the divinity within you,' this indicates its effect, only giving a somewhat wilder scope to the imagination and actions."

Palgrave, in his travels in Eastern Arabia, met with "a narcotic plant gifted with curious properties. Its seeds pounded and taken in a small dose produce effects much like those of Sir Humphrey Davy's Laughing Gas. The patient dances, sings, and performs a thousand extravagancies, till after an hour of great excitement, he falls asleep, and on waking, has lost all memory of what he did or said while under the influence of the drug. To put a pinch of this powder in the coffee of some unsuspecting individual is a not uncommon joke, nor did I hear that it was ever followed by serious consequences. I tried it on two persons and witnessed its operation, laughable enough, but very harmless."

The Peruvian delights in his coca. This most admirable narcotic sooths but does not intoxicate, in this respect resembling tobacco, though differing in all others. It is either a food, as Anstie and Smith contend of so many stimulants, or it serves wonderfully as a substitute for food. Campbell, who tells us this, sent in April, 1859, an Indian two hundred and forty-nine miles, from La Paz to Tacna, which he did in four days; resting but one day he returned, crossing a mountain pass 13,000 feet high. Through this enormous pedestrian journey, he took no other sustenance than a little roasted maize and his coca. An Aymara Indian travelled with Mr. C. ninety miles in one day, keeping up easily with his mule; eating a few grains of roasted maize, and incessantly chewing coca leaves with chalk. At the end of the journey, he *stood on his head* a few minutes, "a practice of the Aymaras under the circumstances," drank a glass of brandy, and started homeward again. Scherzer says that this "standing on the head after long and severe marches, a custom not less universal than extraordinary, is resorted to, to mitigate the severe pressure of the blood." How does it effect this purpose? Tschudy and Markham speak in highest eulogy of coca. The latter tells us that "an Indian consumes two or three ounces daily, carrying it in a bag with the ashes of the quinoa plant and lime. It enables fatigue to be borne well and with less nourishment, and makes the breathing easier in ascending mountains.—Tea made from coca keeps people awake; applied externally cures headache and moderates rheumatic pains: of all narcotics is the

least injurious and the most soothing and invigorating." Its active principle, cocaine, has been extracted by Nicmann; "other elements Hygrin and Ecgonin, are found in it."

I conclude here this incomplete reference to our long and happily increasing list of anæsthetics, narcotics and anodynes, stimulants almost all of them, nutritious generally as it seems clear enough to me, and in a certain sense tonic also—with the expression of a hope, that, as each one of them possesses some serviceable property peculiar to itself, and adapted in some special manner to the promotion of human comfort, and the relief of human suffering, they will, all of them, at no distant period, be added to the resources of our Materia Medica, and made available in our improving and beneficent Therapeutic.

Errata.—In the Essay on Disease, published in the December number of the Richmond Medical Journal, many of these errors were due to the fact, that the author could not, from indisposition, revise the copy of his original MS. Read—

for	"poisoning,"	"preserving,"	page	468,	line	17th	from	top.
"	"this,"	"urea,"	"	483,	"	34th	"	"
"	"forms,"	"fevers,"	"	485,	"	14th	"	"
"	"indeed,"	"inbred,"	"	474,	"	34th	"	"
"	"typhous,"	"tubercular,"	"	483,	"	23rd	"	"
"	"patent,"	"patient,"	"	466,	"	6th	"	"
"	"patent,"	"potent,"	"	478,	"	31st	"	"
"	"Assis,"	"April,"	"	478,	"	2d	"	"
"	"Lyrus,"	"Syrus,"	"	479,	"	36th	"	"
"	"their,"	"these,"	"	485,	"	36th	"	"

Art. II.—The Relations of the Periosteum to Osteogenesis.

By Alden March, M. D., Professor of Principles and Practice of Surgery, Albany Medical College, Albany, N. Y.

We all deplore the calamities of war, especially when our relatives, friends and neighbours are the sufferers, and yet, may not our late disasters be made available as a means by which the cause of Surgical Science and general good can be promoted? I am well pleased with the ideas and remarks on the reparative powers of nature, in cases of compound and comminuted fractures, as given by the senior Editor

of this Journal, in number for Jan., 1866. I do not hesitate to apply to practice, founded on such principles, the term "Conservative Surgery."

At the early part of our late war, many of the medical men, who held positions in the army, seemed to vie with each other in "cutting and slashing" the mutilated limbs of the unfortunate soldiers, who met with compound fractures of the bones of their limbs, by exsections and resections, under the captivating name of "Conservative Surgery!"

The name applied to such indiscriminate practice, I did not scruple to say, was a misnomer—it should have been called "destructive surgery," as is shown in the tables of compound fractures of the femur, published in this Journal.

My position has enabled me to make observations upon the result of cases of exsection, as well as on those without operation, and almost left entirely to the resources of nature for treatment. In the first instance, if the patients survived, they did so, in most instances, only with a dangling and almost useless limb, whereas, in the latter cases more limbs were saved, and in a far better condition for use.

I have published a pamphlet, entitled "Compound, Comminuted and Complicated Fracture of the upper end of the Tibia." I have seen fourteen fragments of bone, all but one of which had reünited to the surrounding parts, at the end of about ten weeks, and were covered with periosteum, except the sharp projecting points of two or three of the pieces.

To demonstrate that the periosteum can alone produce new bone, I have now two photographs of necrosis of the entire lower jaw, which I removed about a year ago, in a case of phosphatic necrosis in the person of a young girl, who had been employed in a lucifer match factory, in which it can be shown that a new shell of bone formed, and covered almost entirely the old bone, and that the new shell, in its turn, took on diseased action and died. After making an incision in the line of the fistulæ, on the under side of the base of the jaw, and on sawing it in two, near the middle, the periosteum was found so completely separated from the bone, that by the aid of the fingers almost alone, both portions were

readily extracted. And at this date the periosteum seems to have formed a second bony crust, which preserves the face in good shape. The specimen and the result of the operation are exceedingly interesting, and instructive in a pathological, as well as in a surgical point of view.

I have also two other photographic representations of the stump of the femur of a wounded officer, by which can be proved conclusively, that both the periosteum and medullary membrane were concerned in supplying new bone, to take the place of the original necrosed and sequestred walls of the os femoris.

I think it can be shown by these specimens—in the comminuted fracture of the tibia, in the necrosed lower jaw, and in that of a portion of the femur of an amputated thigh, that the vessels of the periosteum, medullary membrane and surrounding tissues, were concerned in reüniting and consolidating the fragments of the shattered tibia; that the blood-vessels of the periosteum, alone of the lower jaw, were concerned in forming the outside shell of new bone, and that in the case of the femur, both the vessels of the periosteum and those of the medullary membrane, took on the action of secreting and depositing new bone *without* and *within* the cavity of the original dead bone—bone being thus formed without the action of the periosteum.

Art. III.—Malaria: Its Origin. By John Douglass, M. D., Fairfield District, S. C.

Having noticed, in a late number of the Richmond Medical Journal, a new theory advanced by Dr. Salisbury, for the production of malaria—viz: the growth of certain algæ, which abound in stagnant marshy ponds and sluggish streams, etc., I am induced to offer a few remarks, showing that such localities as favour the production of those plants, have ever been, according to my experience, the laboratory evolving rapidly the cause of malarial fever. I have been a close observer of fever, for more than half a century, and thought I had adopted the true theory as to its cause. Many years ago, I was called to a family in early Summer, where three of

its members (adults) had been attacked with violent remittent fever, within a few hours of each other. On my first visit, I looked in vain for some local cause, but on the following day, I discovered, from the stench, that it arose from a small cellar or pit under the floor, which during the Winter was full of water with rubbish, but which was then nearly dry, and the trash in it in a state of decompositon. The pit was cleaned out and filled with fresh soil, which arrested all farther attacks of fever.

A quantity of cotton-seed was piled up in the open air by Mr. W., of Fairfield, in the Spring; during the Summer and Fall, the fœtor from it at night was extremely disagreeable. The seed was near his residence and negro quarters. During the Summer and Fall, there were upwards of forty cases of an extremely malignant type of bilious fever, attended in almost every case, with congestion of the brain and bowels.

In many other cases, decaying timber, from recent clearings around residences and quarters, have, I believe, produced the same results. It is now a universally admitted fact, that fresh water marshes, stagnant pools, &c., are prolific sources of malaria, where both animal and vegetable matter are undergoing decomposition.—A plausible theory, many years ago, was adopted, that animal matter produced diseases of a typhus character, and the vegetable effluviæ the malarial and bilious type. From the diseases of camp and prison life, I think this theory generally confirmed.

I will add nothing as to the modus operandi of the poison, whether in the lungs and blood-vessels by respiration, or in the stomach by food and saliva. Nor will I suggest anything in regard to the treatment, further than to remark, that my experience and observation convince me, that many cases are protracted by delaying the administration of quinine for the purpose of cleansing the stomach, as it is called, overlooking the important fact, that the fever produces those functional derangements. I would add, in conclusion, that if more attention was paid by persons to keeping their yards and surroundings free from those putrescent masses, algæ, etc., many localities called "sickly," would greatly improve in their "healthfulness."

Art. IV.—Case of Puerperal Convulsions with Instrumental Labour, Followed by Operation for Atresia Vaginæ. By Robt. B. Nelson, M. D., Charlottesville, Va.

Called March 9, 1854, to see a negro girl, Betsey, æt. 18: very stout, and of full, plethoric habit; has been thirty-six hours in labour with her first child.

Found this patient, on my arrival at 10 A. M., suffering with strong labour pains, recurring every few moments. Made an examination per vaginam. The head presenting, had passed the superior strait, and become immovably fixed in the excavation.—Forceps were sent for, but before they could be obtained, a violent convulsion supervened, followed by coma, with stertorous breathing.

Immediately opened a vein in each arm, and allowed the blood to flow, until twenty ounces had been taken. The forceps having arrived in the meantime, I applied them, and with difficulty delivered a large fœtus, which had been for some time dead. The coma having somewhat abated, I gave a full mercurial cathartic.

5 P. M.—The convulsions still continuing; the breathing stertorous; and the patient comatose; shaved the head, and applied cups freely. Ordered Hydrarg. Chlor. Mit. grs. ii., every two hours.

March 10, 9 A. M.—Passed a bad night; convulsions recurring every ten or fifteen minutes during the whole night; breathing still stertorous, and patient comatose. The bowels have been freely acted upon, and there is slight ptyalism. Ordered a blister large enough to cover the entire scalp, and continued the mercurial.

March 11, 9 A. M.—Patient passed a much more comfortable night, and is better to-day; has had no convulsion since yesterday at 9 P. M.; has spoken for the first time since her delivery; intellect clear. Ordered light, nourishing diet, and perfect quiet in a dark room.

March 12, 10 A. M.—Passed a very comfortable night, and is much better to-day. Ordered perfect rest, and strict attention to diet. In a few days this patient being convalescent, was left in the hands of a nurse, with particular instruction to attend to the vagina and external organs of generation.

Nothing more was heard of her, until Sept., 1855, when being

called, I found that she had not menstruated since her confinement, a period of more than eighteen months. During the whole of this time, she had suffered, at each returning menstrual term, pain in the back, loins and hips, accompanied by violent hysterical paroxysms; but there had never been the least discharge.

An examination per vaginam, revealed complete occlusion of the vagina—"Atresia Vaginæ." The mucous membrane lining the internal surface of the vagina, had sloughed from long continued pressure of the child's head, in her previous confinement, and notwithstanding the most careful precautionary instructions, the walls of the vagina were allowed to become adherent.

Dr. W. and myself saw this patient Sept 20th, and determined to operate. Having been placed upon her back, with the hips near the edge of the bed, her feet drawn up, and the knees well pressed apart, a catheter was introduced, and given to an assistant. The index finger of the left hand, was then passed into the vagina, until it was opposed by the membranous adhesions. A scalpel, wrapped to within one-quarter inch of the point, was introduced on the upper surface of this finger, and the adhesions divided horizontally.

As soon as the point of the scalpel penetrated the vagina beyond the obstruction, a quantity of dark grumous looking fluid gushed out, and an opening, which readily admitted the finger, having been made, the patient was placed over a vessel, which soon contained some eighteen or twenty ounces of exceedingly offensive menstrual fluid. This continuing to be discharged, the completion of the operation was postponed until the following day, when the discharge having ceased, the remaining adhesions, on either side of the opening already made, were easily divided.

A tent of soft linen, well oiled, was then introduced, and allowed to remain six or eight hours, when it was withdrawn and renewed, this course was pursued until the wound entirely healed.

This patient recovered speedily and has since enjoyed excellent health.

[The experience of Dr. Nelson in the use of the knife, for the permanent relief of atresia vaginæ, is quite different from that of Dr. T. A. Emmet, of New York, as recorded in the August number of this Journal.—ED.]

ECLECTIC DEPARTMENT.

"Floriferis ut Apes in Saltibus Omnia Limant."—LUCRET.

I.—THE SPHYGMOGRAPH.* By MEREDITH CLYMER, M. D.

The value of the sphygmograph, for the purposes of physiological research, has been for some years universally acknowledged.—Its application to the investigation of disease is only beginning to attract the notice of the Profession. By it a permanent record of the pulse form is photographed, as it were, by a series of zigzags, written upon a sheet of paper. It tells, by means of beautiful and simple mechanism, the frequency and regularity of the pulsations of any vessel to which it may be applied, and enables us to see, at a glance, peculiarities and differences in the series, or in any single pulsation, so minute that the most delicate and practiced finger would fail to recognize them. The sphygmograph was invented and named by Vierordt, as an aid in the study of the physiology of the circulation; but the instrument now used, is one materially modified and improved, almost re-made, by Dr. E. J. Marey, of Paris, so distinguished for his admirable experimental researches upon the physiology of the circulation, and their practical application to clinical medicine.

Marey's instrument may be briefly described as consisting of a steel spring, whose free end, covered with a convex plate of ivory, rests upon the artery to be examined, and by virtue of its elasticity exerts a certain degree of pressure upon the vessel. Each pulsation slightly raises the spring, at its distal extremity, and the multiplication of the movement is obtained by means of a very light lever, which moves upon a pivot, the rise of the spring being transmitted to the lever, very near to its centre of motion by a bar of metal, bent at right-angles, so as to form two limbs of unequal length, the horizontal one being two-thirds longer than the vertical one, which latter terminates in a point. The vertical arm of the bar is pierced by a screw, which, when it acts, establishes a connection between the spring and the bar, and the movements of the former are transmitted to the latter, and through its vertical arm to

* Physiologie Médicale de la Circulation du Sang. Par le Dr. E. J. Marey. Paris, 1863. On the Use of the Sphygmograph. By B. W. Foster, M. D. London, 1866. On the Application of Physical Methods to the Exploration of the Movements of the Heart and Pulse in Disease. By J. Burdon-Sanderson, M. D., and Francis E. Anstie, M. D. The Lancet, Nov. 1866.

the lever. To insure the transmission of the movement, the short arm of the bar must be in contact with the under surface of the lever, and this is effected by means of the screw, which also regulates the interval between the point of the short arm and the under surface of the lever, as well as the amount of pressure exercised upon the artery by the spring. The lever carries at its free extremity a little pen, which, filled with ink, registers its movements upon the paper, covering a plate, and this plate is moved, at a uniform rate, forwards by means of watch-work, placed beneath in the case. The passage of the plate takes ten seconds; the watch-work is wound up by a button, and a small regulator starts and stops the plate. The instrument is applied to the arm, when the radial pulse is to be explored, by elastic bands, a pad being previously placed on the under surface of the limb for the greater comfort of the patient, and to take off the pressure of the bands.

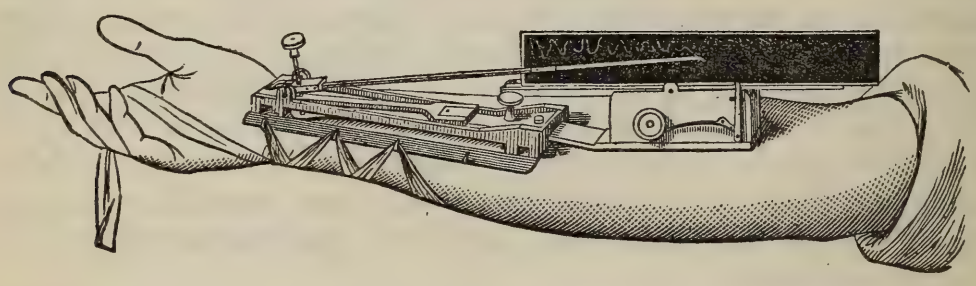


FIG. 1.

Sphygmograph of Marey, fixed upon the forearm. The movements of the pulse are transmitted to the long and light wooden lever, and registered on the plate, which is moved at a regular rate by the clock-work. *

The tracings of the pulse-form are a literal transcript of physiological facts, and these should be understood before the record can be read aright, and to prevent error the mechanics of the circulation must be known. The researches of E. H. Weber (1833) established that the pulse took its origin in the sudden stretching of the aorta by the pressure of the blood injected into it by the contracting ventricle, and that it is propagated along the arteries in the form of a wave. It set aside, by direct experimental observations, the tidal theory of Bichat, who held that all pulses were synchronic—which was subsequently shown by physiologists to be

* This plate is obtained through the courtesy of Dr. J. M. Da Costa, of Philadelphia, Pa., being a copy of that used in his valuable Work on Medical Diagnosis. The copy of this plate was furnished by the publishers of the Work, Messrs. J. B. Lippincott & Co., and for its use in this Journal their copy-right has been generously waived.—ED.

incorrect—and proved that there was an appreciable interval between the contraction of the ventricle and a pulsation in any artery, and that it was in proportion to the distance of the part explored from the heart. Vierordt, Chauveau, and Marey mainly developed the physiological facts growing out of Weber's theory. The aorta in man cannot be directly examined, but it may be assumed that the wave or pulse of the carotid or subclavian arteries, from their size and proximity to the aorta, is practically identical with the primal wave. A pulse-trace as recorded by the spygmograph (Fig. 2), is made up of a series of curves, each curve corresponding to a com-

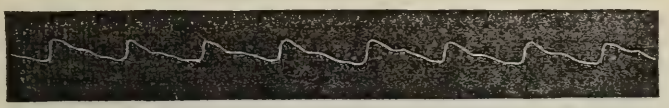


FIG. 2 (MAREY.)

plete cardiac revolution, and is called the *pulsation*, which is composed of three parts, viz: the line of *ascent*, the *summit*, and the line of *descent*. The first part coincides with the period the heart and aorta are in communication—the systolic period—the beginning of which is marked by a sudden, upward jerk of the lever, indicated in the tracing by a nearly vertical line; then comes a slight fall followed by a slighter upward jerk, tokening the closure of the valves, and arrest of the communication, and marking the second part or *summit;* the lever remains stationary for an instant, and then suddenly falls—the third part, or *descent* The line of *ascent*, caused by the flow of blood into the vessels after each cardiac systole, tells, by its form, the manner in which the blood enters the aorta. The more rapid the afflux the more vertical will be the line of ascent. When the blood enters slowly, from any hindrance, the line of ascent is oblique, and sometimes of a curved form. In certain disorders of the heart and vessels, the line of ascent is of a mixed form, the first part of the trace being vertical and the rest curved. When, under certain conditions, the mass of the blood in the ventricle during contraction is thrown into rapid vibrations, the ascending pulse-curve is interrupted by a series of notches, each corresponding to a vibration. The summit of the trace marks the moment when the afflux and efflux are exactly equal, and it may be so short as to be a mere mathematical point between the lines of ascent and descent, or of such duration as to make the summit a horizontal line of some length, or it may be formed by an ascending or descending plane, according as the afflux is greater than the efflux, and the reverse. A little hooked-point sometimes precedes the summit, and becomes a valuable element of diagnosis. The line of descent, corresponding to diminished pressure in the

arterial system, marks, by its degree of obliquity, the rapidity of the fall in the pressure, and indicates the facility of the passage of the blood. Its form may vary very much, being sometimes purely oblique, occasionally with a curve whose convexity is upwards, or it may have one or more undulations—this last character indicating what is called *dicrotism* (Fig. 3); which term it has been proposed

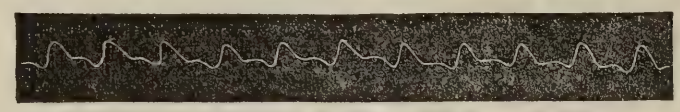


FIG. 3. (MAREY.)

to limit in sphygmography to the undulations seen in the line of descent, to distinguish them from those met with at times in the line of ascent, which have a different diagnostic signification. The degree of abruptness in the line of descent depends on the amount of aortic regurgitation, and the swiftness and completeness of closure of the sigmoid valves.

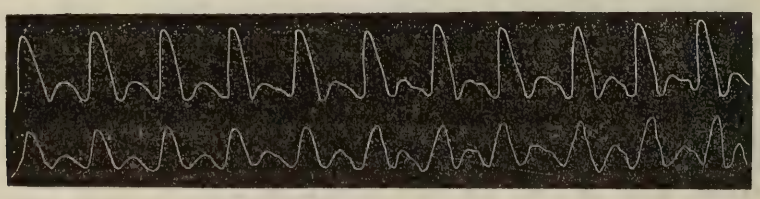


FIG. 4 (SANDERSON AND ANSTIE.)

Carotid and radial tracings of a male, æt. 25, with phthisis in third stage, showing some of the more striking differences between the pulse-curves of the two arteries, particularly the greater duration of the systolic distension in the carotid than in the radial, the peculiarities due to the propagation of vibrations from the heart, and the notch or angle by which the moment of closure of the aortic valve is indicated. The arterial pressure is low. Upper line carotid, lower, radial tracing.

In the great vessels, pulsation is produced by a simultaneous increase of tension and acceleration of movement. In the more distant arteries, these two effects are no longer coincident, for though transmitted, they tend to separate more and more from each other the further they are noticed from the heart (Fig. 4.)

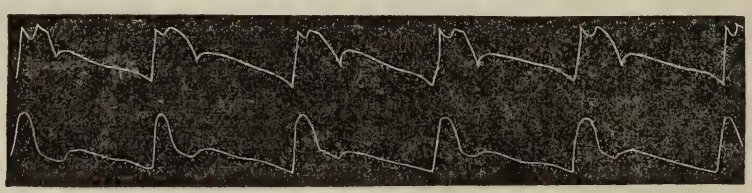


FIG. 5 (SANDERSON AND ANSTIE.)

Tracings obtained by the successive application of the sphygmograph to the carrotid and radial arteries of a male patient, convalescent from lead colic. The upper line is the carotid tracing, the lower the radial.

With regard to the radial pulse: (1.) The propagation of the

systolic acceleration, if it happens, causes a rapid expansion of the artery, which is synchronous with the ventricular systole, and is immediately followed by collapse. (2.) The propagation of the systolic pressure-wave gives rise to a gradual expansion of the artery, and follows the systole after a variable interval. (3.) When the resistance due to the mean arterial tension is considerable, the acceleration extends only to the great vessels, so that its effects at the wrist are imperceptible, and the pulse-tracings are wave-like.—When arterial tension is lessened, the elevation of the lever from systolic acceleration is abrupt, but of short duration (Burdon-Sanderson) (Fig. 6.)

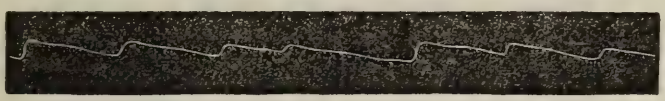


FIG. 6 (FOSTER.)

Radial trace, showing effect of long interval, and consequently low pressure, in amplitude of the pulsation.

Degeneration of the arteries, so common in old age, is indicated by certain forms of the pulse-trace (Fig. 7.) The chief characters

FIG. 7.

Showing senile change in the vessels, loss of elasticity, and absence of dicrotism.

of the senile pulse are: great amplitude of the trace; a vertical and sometimes broken line of ascent; a sudden fall of the first part of the descent, and an absence of dicrotism. These peculiarities are due to dilatation of the vessels, their lessened elasticity, and to increased energy of the ventricle. They are found in a less degree, sometimes, at an earlier period of life, and betoken the presence of arterial change. The rounded summit and decreased dicrotism are, when well marked, the first signs of diminished arterial elasticity, and the beginning of arterial change.

The pulse-trace in *aneurisms* shows the modifications in the movement of the blood produced by the diseased condition. An aneurism of the subclavian artery was detected by means of the sphygmograph, when it was impossible to make out the diagnosis by the usual methods of investigation, (Burdon-Sanderson and Anstie, The Lancet, January 20, 1866.) These modifications depend on the site of the tumour, its size relatively to that of the diseased artery, and the elasticity of its walls to properly study the pulse-

traces. Marey divides aneurisms into two classes: (1.) When their site is such that the pulse can be explored on the involved vessel at some point below the tumour. (2.) Those of the aorta. 1. The pulsation of an *implicated artery* below the tumour is weakened and generally retarded, the sac modifying the movement of the fluid. The sphygmograph shows that the modifications of the pulse are both in its form and its force; the movement of the blood in the vessel is more like that in the smaller arterial branches in a natural state. The vertical line of ascent disappears, and often approaches in length that of descent. 2. In aneurisms of the aorta the indications given by the pulse-traces are less marked. Marey has found the force of the pulse generally but little decreased. Changes in the dicrotism may be present in one or both radial pulses, and is occasionally a sign of value. The most valuable sign is a constant dissimilarity in the pulse-traces of the radial arteries, which is shown either by a slight difference in the dicrotism only, or by evident difference in the form.

In Valvular Diseases of the Heart the sphygmograph increases the accuracy of the diagnosis. The pulse-trace in *aortic obstruction* shows an obliquity of the line of ascent, indicating a prolonged ventricular systole, and the gradual entrance of the blood into the aorta. Insufficiency of the sigmoid valves—*aortic regurgitation*—produces pulse-traces of a striking character. There is great amplitude, due, according to Marey, to the feeble tension of the artery, in consequence of regurgitation during the ventricular diastole; the vertical line of ascent, making the sudden ventricular contraction, ends in an acute, pointed process, indicating that the lever, from its sudden and accelerated elevation, has for a brief interval lost its connection with the arterial movement; the summit is often very short, but may be a curved or horizontal line, as in cases where there is narrowing of the aortic orifice, or the passage of the blood into the vessels is from any cause hindered (Fig. 8.)

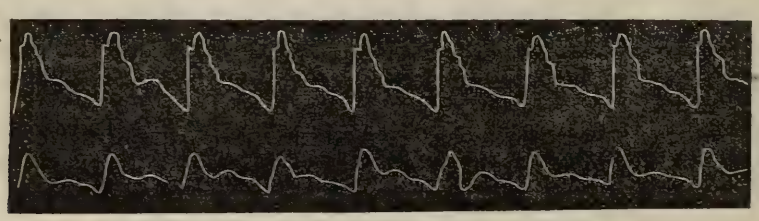


FIG. 8 (SANDERSON AND ANSTIE.

Carotid and radial tracing in a patient, æt. 23, with mitral and aortic disease. Upper line carotid, and lower line radial tracing

The very irregular pulse of *Mitral Regurgitation* is characteris-

tically recorded by the sphygmograph. If there is coincident narrowing of the auriculo-ventricular orifice, the irregularity of the pulse-trace of pure mitral regurgitation is less.

The pulse-form in acute diseases is now being intelligently and carefully investigated by several competent observers—notably by Drs. Burdon-Sanderson and Anstie, of London. The results yet made known are encouraging, and promise that the spyhgmograph will become a received instrument of clinical diagnosis and a valuable aid in prognosis. These researches have not, however, reached such a development, especially as regards the true interpretation of the sign language, which the instrument writes with the accuracy of the electric telegraph, to warrant absolute rules being yet laid down.

The constancy of form in the tracings from the same individual at different times, under the same physiological conditions is remarkable, shows the trustiness of the sphygmographic record, and, as Dr. Burdon-Sanderson remarks, "however imperfectly we may as yet be able to interpret it, we may confidently hope that it will some day help us to arrive at a more perfect knowledge of those individual peculiarities of healthy constitution which we now neglect for the want of the means of appreciating them."—*Med. Rec.*

[To the courtesy of Dr. Clymer, Dr. Dunster and Messrs. Bailliére Bros., of New York, the Editors are indebted for these diagrams of pulse-tracings. The instrument and its tracings are attracting so much attention, that no efforts have been spared in presenting these illustrations to the readers of this Journal.—Ed.]

II.—On the Influence of Hypodermic Injection upon the Science of Toxicology. By S. P. Duffield, Ph. D.

So wide has been the beneficial influence of improvements in chemical analysis, that it would be superfluous to attempt to make any further observations on the important part performed by this branch of the science.

When medicine, in the earlier times, stepped forth and claimed preëminence and respect, while the untiring alchemist, with his *furore*, furnaces and fumes, sought for that elixir which should place eternity within his control, she was then encircled by the *fancies* of her speculative philosophy, encumbering the studies of all her collateral branches.

But in the present age, the exact methods of investigation have plunged her again into a new labyrinth of untenable theories. The famous trial of Palmer, in England, for poisoning his victim with

strychnia, drew all chemists to investigate most thoroughly the behaviour of this alkaloid to chemical reägents, and we now have full data and methods which render its detection and recognition quite easy and simple.

The beautiful system of dialysis by Graham has been another step in advance, and can truly be called one of the æsthetics of toxicology, divesting it, as it does, of the circuitous and very unpleasant course heretofore pursued in examining the viscera of a poisoned subject. But brilliant and rapid as have been the advances in this department of chemistry, those very discoveries have turned up new obstacles to be overcome.

Of late years, a system of introducing remedial agents into the circulation, more rapidly than can be done through the agency of the stomach, bids fair to place in the hands of designing persons a power which has never before been possessed by any within or without the profession of medicine. I refer to the system of hypodermic injection, becoming now so deservedly popular with the "regular medical profession."

This system owes its success to the facility with which poisons are introduced into the blood.

From the earliest times, *blood* has been a favorite topic.

Moses, in accordance with the views of the ancient Egyptians, placed the seat of life in the blood.

One might, therefore, reasonably have expected that subject which had played such an important part in medicine would have had more than empirical support, on which to base some degree of accurate knowledge.

When we remember that only three-fourths of a century ago oxygen was unknown to the chemist, we can readily perceive why former investigators were powerless. Even to physics, which had solved some of the great astronomical problems, the phenomena of the animal organism were a sealed book.

Albinus took no meagre view of organic activity in nature when he established the axiom, that the essence of life, or the vital force, consisted in *motion.*

Changes are continually going rapidly forward in the living body; physical forces are always striving for the equilibrium; the matter set in motion by them finds its centre of gravity—its point of rest. Force is nothing more than the expression of the casual account of natural laws; and if facts do not accord with *our* laws, we have either formed false opinions, or have imperfectly investigated the different circumstances under which they were exhibited.

Within the past few years the science of toxicology, as developed by the German and French chemists, has attained an accuracy

which is surprising, when we contemplate the crude state it was in fifty years ago. But rapid as has been its progress, there has suddenly arisen a barrier to its advance, more formidable than any it had to meet before.

Friedberg and Ritter mournfully acknowledge that the day has not yet arrived when we can detect the difference between dried human and ox blood. A few enthusiasts have claimed a *peculiar odor* to different kinds of blood; but these tests stood on so slender a foundation, and required an almost *hyper-excited* nose to detect them, that no conscientious expert will, for one moment, depend on it for convicting the criminal. The microscope, with its polarizing prism, is not able to distinguish between the most of domesticated animals' blood and that of man, after it has been dried any length of time.

We are not able at the present day to detect *absorbed* alkaloidal poison, and this is the fact forming the subject of this essay, and to which I wish most particularly to call your attention. There can be no doubt that these powerful agents, of which strychnia and morphia are the types, are absorbed into the blood, and diffused throughout the system, like other poisons. There seems to be a want of unity in the statements relative to their deposition in the viscera, and their subsequent elimination. M. Stats, in 1847, announced the discovery of the alkaloid in the tissues; but it is questionable whether this was not some portion of the nicotine which had been imbibed, rather than absorbed. Referring to his process, with which all analytical chemists are familiar, he says he has separated strychnia and brucia from nux vomica, veratria from extract of veratrum, emetina from extract of ipecac, colchicin from wine colchicum, hyoscyamia from extract of henbane, and atropia from extract of belladonna. Some of the poisons mentioned here will destroy life—the fraction of a grain. Mr. Morson, of England, prepares aconitine, of which 1-144 of one grain is the full dose, and says that perhaps the 1-50 would prove fatal to an adult. Where is the analytical chemist who could separate, in quantity enough to give reliable colour test, and obtain crystals, visible even with the strongest microscope, this 1-50 portion of a grain after it has been thoroughly transfused through twenty-eight pounds of blood, and all the tissues and organs of the body?* He who has this power can detect, and separate, and weigh the specific poison of rabies or of the rattlesnake, and could justly be classed as a rival of Omnipotence itself.

*Equals the 1-9800000 of a grain, assuming *only* the blood contains it. If diffused through the whole body, allowing 128 pounds for tissues, it would then be reduced to the 1-44800000.

Among numerous cases of poisoning by opium or its alkaloids which have fallen to my lot to examine and depose on, I cannot conscientiously say that I ever detected *absorbed morphia.**

The same remark will apply equally to strychnia, and I cannot see how some men will state definitely they can separate *absorbed strychnia*, but have never dared to undertake the task; knowing that the patient dies from the poison absorbed, they, while claiming they can detect and separate *absorbed poison*, contented themselves with extracting the contents of the stomach. When we look back, we find that up to May, 1856, as regarded the detection and separation of strychnia, *chemical science was a blank.* In no one instance before this had strychnia been obtained from the tissues of the corpse, and, in the greater number of cases, it had not even been found in its unabsorbed state in the stomach.

With respect, therefore, to the separation of the vegetable poisons, from the blood and tissues, the results are very unsatisfactory. We look in vain in the treatises of Orfila, Kopp, Christison, and in the more recent works of Gauttier, Flandin, Casper, Otto of Braunschweig, Bocker, for any instance in which they claim absorbed strychnia to have been detected either in the human being or in animals; and, in this particular, strychnia is but a type, for the same remarks hold good of the other alkaloids.

Dr. Harly, of University College, examined the blood of a dog killed by the 1-12 of a grain of acetate of strychnia injected into the jugular vein. The blood, after the death of the dog, gave no evidence of strychnia. Mr. Hoasely, of Cheltenham, examined the blood and tissues of a dog which he poisoned with two grains of strychnia, and could not detect its presence. Dr. De Vry, of Rotterdam poisoned a dog with nitrate of strychnia, introduced into a wound, and after its death, he examined four ounces of blood, but not the least trace of strychnia was detected. In another case, in which a dog was poisoned in four days by half a grain of strychnia in divided doses, the chemical analysis led to a negative conclusion, not only in the blood and tissues *but in all* parts of the body. Dr. Crawcour, of New Orleans, gave a rabbit half a grain of strychnia; the animal died in half an hour. No trace of the poison was found in any part of the body. In a case of poisoning which occurred to Dr. Geoghegan, of Dublin, in 1856, thirty

*In the case of a woman who committed suicide at one of our hotels and whose stomach was handed me immediately after death, I was able to separate only two grains, when she had actually taken ten grains. Again, in the case of a homœopathic physician who gave solution of morphia, I detected the 1-8 of a grain in a teaspoonful of the solution, and could only get a colour test for morphia from the stomach.

ounces of urine, which had passed the patient from the fifty to the thirty-first hour, when carefully analyzed, did not yield any trace of strychnia. A case of great interest bearing upon this subject occurred to Mr. Wilkins, of Newport, in the Isle of Wright, in February, 1857. A gentleman died in six hours after taking about three grains of strychnia for the purpose of self-destruction. The long period he survived was most favorable for the diffusion and deposition of the poison. The blood and heart were examined by Dr. Taylor and Mr. Scanlan, portions of the liver and lungs were examined by Dr. Christison and Dr. Douglass Maclagan, of Edinburgh, and one kidney was examined by Dr. Geoghegan, of Dublin. The result was, no trace of absorbed strychnia was detected in any one part. In reference to the detection of other alkaloids in an absorbed state, there is an absence of facts. That they enter the blood by absorption is placed beyond a doubt; but whether, when there, they are partially changed, or deposited unchanged in the organs, has not yet been satisfactorily determined by experiment. Dr. De Vry has made recently experiments on the alkaloids, and arrives at the conclusion that that part of the alkaloid which acts mortally is decomposed in the living body. The examination of a large number of cases in the human subject can alone determine perfectly this most important point in toxicology.

Be that as it may, we are absolutely certain of a failure in attempting to detect the poisonous alkaloid atropia in the blood, if administered by hypodermic injection, as it would not require more than one-half a grain to prove fatal. Analytical chemistry, which has, up to this time, occupied so prominent a position, and been so ably associated with forensic medicine, is now perfectly powerless. She cannot solve this problem. There may come a time when more accurate methods and more delicate reägents may lead us to a satisfactory solution of it. Heretofore she has been the Nemesis which pursued, with outstretched grasping hand, the murderer. That hand has been paralyzed by this bold application of principles of chemical physiology in the treatment of disease. The only means now of detection will lie in the testimony of the physician of the symptoms observed by him, at the bedside of the dying person.*

Synthesis is far ahead of analysis, and we must admit that this is a problem of great importance, and to which the attention of toxicologists should be turned. For the present we must say, as we stand groping on the confines of mortality, and straining our

* There is just reason to hope for good results, from analysis, by the spectroscope. Bunsen discovered, in this way, the new metal Cæsium in matter weighing only 1000th part of a grain.—Ed.

powers to discover in the broad, measureless eternity some means of controlling the moral effect of this fact, and some law which may lead us to processes of detection, that just now we realize how helpless the human mind is, how utterly futile has been its attempt to discover a mode of detection. In future many a throbbing heart will suddenly cease, and no eye but God's be able to detect the murderer. For the present too much weight cannot be given to the testimony of the medical witness at the bedside; if that is not had, and no physician was near at the time of death, we are cast to drift upon an unexplored and perhaps a shoreless sea.

Medical testimony now becomes all-important, and chemical testimony wanes in value, for no satisfactory results can be obtained. Juries will now, more than ever, be dependent upon circumstantial evidence.

Mortifying in the extreme as it is to our professional pride, stripped of professional honors in medico-legal investigations, the chemist and toxicologist now, if never before, realize the truth that comes floating to us on the dying breath of La Place—"What we know is little, and what we are ignorant of is immense."—*Proc. Amer. Pharm. Assoc.*

III.—Glycogenic Function of the Liver.

By Howard Townsend, M. D., Professor of Physiology and Materia Medica, Albany Medical College, Albany, N. Y.

That the liver secretes bile has been long known, but that it performs in the animal economy another important function, which is the production of a sugar, has only been known since the year 1848, when M. Claude Bernard, Prof. of Physiology in the College of France, demonstrated to his class this function, which he denominated the Glycogenic Function of the Liver.

Both Magendie and Prof. R. Thompson showed long since, that when large quantities of saccharine or amylaceous matters were employed as food, the general mass of the blood is found to contain an appreciable portion of sugar, but M. Bernard has by his experiments proven that a sugar nearly allied to glucose is a constant constituent of the blood drawn from the hepatic vein, ascending cava, right auricle, and pulmonary artery of all animals, whether they may have been fed upon amylaceous or saccharine substances, or upon food entirely destitute of these principles. In fact, that the liver can actually generate sugar from other than amylaceous compounds, which fact Bernard demonstrated by obtaining sugar from

the substance of the liver, even of animals which he had fed for a long period on animal food alone, and this discovery of Bernard's was afterwards verified in the Giessen Laboratory (Liebig's.) The blood in the hepatic vein of these animals was found to contain sugar, though none could be detected in the portal vein, proving that it had been elaborated in the liver.

In herbivorous animals, whose food contains a large supply of amylaceous and saccharine matter, the liver does not thus furnish any very large amount of this sugar, but on the contrary a portion of the saccharine constituents of the portal blood seems to be converted, in its passage through the liver, into fatty matter.

In carnivorous animals, though, which have already a supply of fat in their food, but no sugar, the transforming process would seem to be of a different kind, sugar being produced *de novo*, although it has not yet been determined from what element of the blood it is elaborated.

There is a strong probability that the production of this liver sugar takes place at the expense of the protein compounds, and that it is the chief means through which the products of the disintegration of muscular and other albuminous tissues are made available for the maintenance of animal heat by means of the combustive process.

Of the character of the sugar thus produced in the liver little is yet definitely known, but it would appear far to surpass even glucose in the readiness with which it is carried off by the respiratory process, for according to Bernard, twelve grammes may be injected into the blood with no more effect upon the urine than is produced by 2.5 grammes of glucose, or of 0.5 of cane sugar.

The word Glycogene, which gives the name to this function of the liver, is derived from the Greek. The glycogene which is elaborated by the liver, is the first formation in the hepatic tissue, which secondly becomes converted into liver sugar by a process of catalysis.

This glycogenic matter is regarded as intermediate in its nature and properties between hydrated starch and dextrine; according to Pelouze its ultimate composition is:

$$C_{12}\ H_{12}\ O_{12}.$$

If this glycogene be mingled with human saliva, at a temperature of 100° F., the mixture will be found to reduce the salts of copper just as glucose will, proving that the glycogene has been converted ingo sugar by a catalytic process, just as vegetable starch would be changed under like circumstances.

Glucose is the term now commonly employed in chemistry for

grape, fruit, starch and honey sugar, a variety of sugar occurring naturally in many vegetable juices. It differs from cane sugar in being much less soluble in water, and also less disposed to crystallize, and if it be injected into the blood vessels it does not pass off to an equal extent by the kidneys. Its chemical composition is:

$$C_{12}\ H_{14}\ O_{14},\ \text{or}\ C_{12}\ H_{12}\ O_{12} + 2\ HO.$$

Cane sugar, *Sucrose*, the chemical formula of which is:

$$C_{12}\ H_{9}\ O_{9} + 2\ HO,$$

is chiefly obtained from the sugar cane. If it be injected in any considerable amount into the general circulation, it is neither assimilated nor is it removed by the combustive process; but like soluble salts when thus introduced, it is removed by the kidneys, being speedily detected in the urine.

Of grape sugar it would require a much larger quantity to be injected into the general circulation before a trace of it could be detected in the urine.

Magendie gives the following as the proportions in which different sugars require to be injected into the jugular veins before they can be detected in the urine:

Cane sugar	1
Sugar of milk	5
Glucose	50
Liver sugar	240

Fifty times as much glucose as cane sugar must be injected before it can be detected in the urine, and nearly five times more of liver sugar than of glucose before it can be detected. Hence it is obvious that this liver sugar is applicable to some purpose within the system, not requiring to be cast out as a foreign substance.

Though much has been established by physiologists as regards the function of the liver, there yet remain many points to be determined, and before we can have any accurate knowledge of its phenomena, we must have a more accurate and positive knowledge of its histology or minute structure. The parenchyma of the liver consists of an aggregation of little granules one fourth to one half of a line in diameter, which granules are called *acini* or *lobules*. Though not very distinctly marked in the human liver, they are clearly so in the liver of the hog, forming little polygons, each independent of its neighbour, and presenting a very distinct outline.

Each lobule or acinus of the liver represents in its structure a

miniature of the whole organ, therefore describing one, gives an idea of the histology of the whole gland.

In each acinus or lobule we find :

1. A mass of hepatic cells.

2. The terminal ramifications of the vena portæ and the hepatic veins.

3. The biliary apparatus consisting of the radicles of the hepatic duct, and the terminal branches of the hepatic artery.

The cells found in the liver which constitute its proper secreting substance are irregularly polyhedral from 1-2000 to 1-1000 of an inch in diameter, having soft granular contents, some minute oil globules and a nucleus.

Minute branches of the vena portæ (interlobular veins,) are found in the spaces between the lobules or acini forming a vascular network covering the entire surface of the lobules excepting their bases, these send off branches which penetrate into the lobule, from which plexus the intralobular vein has its origin, which intralobular vein is a rootlet of the hepatic vein.

The hepatic cells fill up the meshes of the capillary plexus of the lobule, and in their aggregate whole constitute an epithelial network, which is intermingled with the web of capillary vessels. These elements of the liver probably constitute its glycogenic apparatus.

The hepatic duct enters the liver at its transverse fissure along with the hepatic artery and portal vein, accompanying these vessels to the lobules. In its course it gives off many arborescent branches, from which arise capillary tubes entering the substance of the lobule ; these tubes are lined by a single epithelial layer made up of small cells, but the mode of origin of the radicles of the hepatic duct is still very obscure. The hepatic artery accompanies the hepatic ducts to the lobules, supplies them with very numerous branches, and finally terminates in the capillary plexus of the portal vein.

This biliary plexus was first described and figured by Kiernan and since by Beale. This apparatus of the biliary ducts and the hepatic artery constitute a tubular gland. The liver, therefore, may be considered as made up of two glands intimately intermingled. One, the blood gland, which is concerned in the secretion of sugar, and the other, the tubular gland, in the secretion of bile.

Though, as we thus see, we have much yet to learn of the histology of the liver, of its minute structure, before we can have a very precise knowledge of its physiology. Still we now know something tangible as regards its function, for we have lately

learned through the investigations of Bernard, that this large gland plays a more important part in the functions of the economy than merely secreting bile, which is the elaboration of liver sugar, which during health is a constant process. Glucose is the term used for this liver sugar, yet it is not strictly correct, for though liver sugar closely resembles glucose, they are not identical. It is a sugar of animal origin, common to all species of animals yet known, and may be distinguished from all other sugars by the readiness of its decomposition in the blood. It has its origin in the tissue of the liver, most probably in one of the group of cells which we have been considering, though it is a secondary product produced by the transformation of glycogene which is found anteriorly to the liver sugar, and which is easily converted into this sugar by any of the animal ferments, like those contained in the blood, or the ptyalin which is found in the saliva, by all of which glycogene is converted into sugar by a catalytic process similar to that which would transform starch under like conditions.

This sugar is absorbed by the blood from the tissue of the liver, and disappears soon after entering the general circulation, ordinarily not to be found in the lung tissue.

The precise nature of the changes which it undergoes after entering the vascular system is not known, but according to Lehman and Robin, it becomes at first converted into lactic acid ($C_6 H_6 O_6$.) which decomposes the alkaline carbonates of the blood, setting free their carbonic acid and forming with the bases lactates of soda and potassa, and thus aiding very materially in the respiratory process, and the evolution of animal heat.

Whilst speaking of the Glycogenic funtion of the liver thus in detail, we must, if it be but a mere allusion, notice the work lately published in London by Dr. Pavy of Guy's Hospital, on Diabetes, who having followed Bernard's course at the college of France, and at first enthusiastically adopted his views, now in this new work combats the views of Bernard denying that the liver in a normal state can secrete sugar, considering the phenomena the result of a *post mortem* change, or owing to some embarassment in the hepatic circulation. He acknowledges that glycogene is developed in the hepatic cells; he designates it "amyloid substance," but the sugar he thinks can only be found after death; he gives notes of some experiments of blood "drawn from the right ventricle during life, containing scarcely a trace of sugar; whilst after the subsequent destruction of life, the blood which flowed from an incision into the right heart gave indication of a copious saccharine impregnation." Pavy considers that "Bernard's observations are not incorrectly recorded, or his experiments inexact; but that fallacious inferences,

as shown by more extended investigation, have been drawn from these experiments and their results." One more quotation is all that we will make from Dr. Pavy's interesting, but by no means conclusive work. He writes:

"Although I can not attempt to offer an explanation of why the amyloid substance escapes as it does transformation into sugar during life, whilst the effect takes place with such rapidity after death, yet the fact remains the same."

This certainly seems a trivial mode of endeavouring to refute M. Bernard's thoroughly scientific investigations, and logical deductions. Yet Dr. Pavy has a quasi supporter in one of the ablest physiologists of the Faculty of Medicine at Paris, Longet, who in speaking of these views of Pavy, says, "they seem to merit consideration," and when speaking of Bernard, says, "without mistaking the importance of the results obtained by Claude Bernard, we cannot accept the interpretation that this skilful experimenter has given to those facts with which he has enriched the science."—[Longet, Traité de Physiologie, vol. 1, fascicule 3, page 935.)

This theory of the Glycogenic function of the liver, as established by Bernard, is now so well known, so generally received, that it seems almost necessary to apologise for occupying the time of the society, in minutely describing it, but we have been tempted thus to do, because of a successful effort in exhibiting this liver sugar from the human liver in an experiment lately performed before the class at the Albany Medical College, which was very satisfactory for, as all who have investigated the subject of the glycogenic function of the liver, too well know, it is exceedingly rare to be able to detect it in the *human* liver, while it is the common sequence of an examination of the liver of animals, not but what it is produced in the human liver just as it is in the liver of animals, but in our investigations with the human liver, we very rarely have the opportunity to experiment upon one in a healthy condition. Consequently sugar is rarely found in the human liver. To quote Bernard's own words on this point, he says: "As to the presence of sugar in the *liver of man*, it is evident that in the *greatest* number of cases where it has been sought after, *it was impossible to detect it.*"—[Leçons de Physiologie, page 182.] And in the same work, he says: "During severe maladies, particularly acute ones, the nutritive functions are seriously impaired, the function of the liver ceases, the liver *producing no more sugar.*"

I may be permitted to add that, though a witness of many of Bernard's experiments made at the College of France, it was never there my good fortune to see sugar extracted from the *human* liver.

Previously to performing the experiment before the society, of exhibiting the sugar from the human liver, I will give a brief account of the case which affords us this demonstration.

Not long since, a terrible affray occurred in a bar-room of one of the prominent hotels of our city, between two desperate characters, which resulted in the death of one of the combatants: he being shot through the heart by a ball from a pistol in the hand of his opponent,

The man, who died almost instantaneously, was, in his physique, like a Hercules; some 35 years old, and a magnificent specimen of robust health and strength, and as with most of his fraternity—coming from a class commonly called "roughs"—he drank deeply, and intoxication was one of the exciting causes of this fatal quarrel.

The autopsy was performed some twelve hours after his death, when a portion of the liver was taken (which, by the way, gave a very strong odor of alcohol,) and having been broken into a pultaceous mass, and thoroughly washed in order to remove all the blood possible, was boiled so as to coagulate the albumen and concentrate the liver juice; then the mass was thrown upon a filter and the fluid filtering through was again filtered through animal charcoal, when it came forth a clear opaline fluid, pure liver juice. This juice, boiled in a test tube with some of the *cupro-potassique* test, gave the characteristic reddish-fawn colour, proving that it contained sugar. Had there been no sugar in the liver juice, the blue colour of the test would have remained unchanged, as it did when applied to juice extracted from the lung of the same man. Such was the result of the experiment before the class in the lecture on physiology, as had been the result when the experiment was conducted by Prof. George F. Barker, in the laboratory of the college.

We used Kletzinski's cupra-potassique test, the formula for which is as follows: 2 *parts saturated solution of sulphate of copper,* 3 *parts of glycerine,* 4 *solid caustic potash.*

If this be dropped into a solution containing sugar, the deutoxide of copper is robbed of one of its equivalents of oxygen by the sugar because of the strong affinity of sugar for oxygen, and the copper is thrown down as the red protoxide; whereas, if there be no sugar, the sulphate of copper remains unchanged, a deutoxide, retaining its blue colour.

We obtained a like result with Trommer's test and the other commoner ones, but Kletzinski's is so delicate that it is unnecessary to resort to any other.

Note.—The experiment was performed before the Society with the same satisfactory result which had been obtained in the experiments at

the College. The sugar of the liver juice de-oxidising the deut-oxide of the sulphate of copper, throwing down the red prot-oxide of copper, whilst the copper test remained unchanged, when dropped into the fluid pressed out of the lung tissue, proving that it—the lung juice—contained no sugar.

[These views are apparently controverted by the experiments of Professor Schiff, as detailed in the Pisa letter published in this Journal.—Ed.]

IV.—Atropine and Mercury in Acute Iritis. By T. Pridgin Teale, Jr., M. A., Surgeon to the General Infirmary at Leeds.

During the last two years and a half I have recorded in a tabular form the cases of acute iritis which have come under my care, in order to test the value of certain views of treatment which I had arrived at from the observation of such cases previously to this period. The exactness of the results is so marked, and the sequence of events so definite, that I feel justified in relating the cases to the Profession, and in deducing from them certain principles of treatment, which, if not new, may at any rate not be generally known or acted upon in medical practice.

In speaking of iritis, in this paper I exclude from consideration all cases of traumatic origin; all those which are secondary, i. e., caused by extensive adhesions of the iris to the capsule of the lens left by previous attacks; all subacute forms travelling forward to the iris from the deeper structures, and all cases occurring in children. These are excluded in order to simplify the inquiry, and restrict it to those acute forms, generally syphilitic, which occur in the previously healthy eye of the adult, and which, if neglected, rapidly endanger vision.

For treating such cases many remedies have been and are still employed—venesection, leeches, blisters, opium, purging, belladonna, turpentine and mercury. Some surgeons use many of these in combination, others depend upon some single drug, others denounce particular drugs as injurious or useless. Some claim opium as a cure for all cases, with some belladonna is omnipotent, with others mercury and bloodletting are indispensable. In this variety of practice where lies the truth? Can we arrive at it? I trust that the following records will be accepted as an instalment in this inquiry, as they have been carried out in order to test the relative value of atropine and mercury, to ascertain how much each remedy can do, and to determine if possible the most effectual way of employing them.

The cases here recorded appear to me to justify the following conclusions and principles of treatment.

1. Iritis can generally be cured, quickly and perfectly, by atropine alone, or by atropine and mercury combined, without the aid of other remedies. How far opium, blisters, leeches, and venesection aid and accelerate progress I have not yet tested, wishing in the first instance to determine the value of the remedies under consideration, and then to make the results herein obtained a starting point for further inquiry.

2. The presence or absence of syphilis does not affect the question of treatment.

3. Many, perhaps one-half, of the cases of iritis, *whether syphilitic or not*, can be cured by *atropine alone*.

4. Those cases in which atropine fails to dilate the pupil in twenty-four or forty-eight hours require mercury. In occasional cases the application of leeches renders an eye susceptible of dilatation which at first was unaffected by atropine.

5. When mercury is required, it ought to be introduced into the system rapidly.

6. If the system is to be affected by mercury, the mercury ought to be introduced by *the skin, not* by the *stomach*. When this drug is introduced by the stomach, the digestive powers are depressed at the very period when their healthy function is most needed. When introduced by the skin, its full remedial effects are obtained without any impairment whatever of the powers of nutrition. It is my rule never to introduce mercury by the stomach when I wish to obtain rapidly the constitutional effects of the drug.

7. In those cases which require mercury, it is sufficient to render the gums slightly tender. When the gums are even slightly affected, we have therein evidence of the introduction of mercury into the system in quantity sufficient to turn the scale in favour of health, and carry the case to a successful issue. Therefore, the moment we find the gums undoubtedly tender, or beginning to be tender, we may suspend the drug.

8. In most cases the constitutional effects of mercury, indicated by tender gums and improvement of symptoms, may be obtained on the second, third or fourth days, provided the patient be confined to bed. Absorption of mercury by the skin appears to be *much more* rapid when the patient is confined to bed, than when he is allowed to go about as usual.

9. Atropine should be used during the whole period of treatment, except where it causes great pain or increases conjunctival irritation, in which case it may be *temporarily* suspended, or dissolved in glycerine and applied to the skin.

10. That in cases requiring mercury, the coincidence of tenderness of gums, of relief from pain, and of the action of atropine on pupil is almost absolute, even to an hour or two. Perhaps in cases more severe than those recorded with great effusion of lymph, the visible effects of atropine may be delayed to a later period. On this point I do not possess evidence.

Let us now inquire how far these conclusions are justified by the cases, and what are the general results of treatment.

Treatment.—Of the twenty cases, eleven were treated by atropine alone, nine were treated by atropine and mercurial ointment combined. In one or two cases, a dose of Dover's powder was given when the pain was excessive, and in some others salines were given during the application of the mercurial ointment if the skin was hot and not perspiring. Leeches were used, I believe, in three cases only. Two cases had taken mercury before coming under my care.

Question of Syphilis and its relation to Treatment.—Thirteen cases were undoubtedly syphilitic. Of these, five required mercury; eight recovered under atropine alone. In seven, syphilis was either denied or not made out. Of these, four required mercury; three were cured by atropine alone.

Rapidity of Mercurial Effects.—Of the nine cases in which mercury was required, one used the ointment twenty-four hours; a second twenty-four hours, having previously taken blue pill five days without benefit; a third and fourth used the ointment two days, a fifth and sixth three days, a seventh and eighth four days, the ninth twelve days. So that of nine cases of iritis in which mercury was used, only one required the application of the ointment for more than four days.

Rapidity of Recovery.—Of the twenty cases, seven recovered good sight and pupil within two weeks; one within a "short time;" five within three weeks; three within four weeks; three within eight weeks; one within three months; the twentieth was relieved from pain, with partial recovery of sight.

Perfection of Sight.—Fifteen read No. 1 Jaëger, three (including the second eye of one case) read No. 2, two read No. 6, one could read No. 18.

Perfection of Pupil.—Twelve recovered with a perfectly active pupil free from adhesions; in five there were slight or single points of adhesion; in one there was closed pupil, and in two the condition of pupil is not recorded.

Duration of Disease before Treatment.—In eight the disease had existed not more than a week before coming under my care; in four not more than two weeks; in six less than two months; in one

three months, and in one three months and a half.

Condition of Vision before Treatment.—In six cases vision was limited to perception of shadows; in two it was described as dim; in two the patient could not read Jaëger No. 20; in three the patient read No. 20; in two No. 16; in three No. 4; in two the condition of vision is not recorded.

Disappearance of Mecurial Effects.—In all the cases, although no special note is made on this point, the constitutional effects of mercury passed off in a day or two, and in none do I recollect to have met with any injurious effect whatever which could be traced to the use of mercury.

Relapse of Iritis.—In one case only have I any record of a relapse, and this relapse disappeared rapidly under atropine alone. This fact tends to confirm Gräfe's assertion, "that the principal cause of recurrence of iritis is the existence of synechiæ;" in other words, when iritis is cured with a pupil free from adhesions, it seldom evinces a tendency to recur.

Mode of using Atropine and Mercury in Iritis — Use of Atropine. On first seeing a case of iritis, whatever its degree, I order atropine, of the strength of two grains to the ounce, to be dropped into the eye six times, at intervals of five minutes, in the morning, and six times also in the evening. On the following day, if the pain is lessened and the pupil is beginning to dilate, I conclude that the case is slight, and that atropine alone will cure it. If, however, the pupil is affected, and the symptoms unabated, I commence mercurial treatment without delay.

Use of Mercury.—The patient is ordered to lie in bed, to wrap round each arm a broad piece of flannel, well smeared with mercurial ointment, and to wear this mercurial bandage until the gums are slightly tender, a small quantity of fresh ointment being added every evening. It is not necessary to *rub in* the ointment. I suspect that the "rubbing in," by producing irritation, impairs the absorbing power of the skin.

Discontinuance of the Mercury.—As soon as the symptoms of the disease begin to abate, or the gums begin to be tender (and these two conditions are generally coincident,) the mercury is discontinued. In none of these cases has mercury been given by the mouth (except in two cases, which had been so treated before coming under my care,) and in none has the ointment been rubbed in.

Discontinuance of the Atropine.—As soon as the pupil is fully dilated, as far as any adhesions will permit, the instillation of atropine is reduced to once or twice a day, and continued at this rate as long as redness or tenderness of the eye remains.

This mode of treating iritis coincides very nearly with that

described by Gräfe (On Iridectomy, New Sydenham Society, 1859,) in using atropine as the main remedy, and mercurial inunction in cases too severe to yield to the atropine. It differs from it in dispensing with *rubbing in*, and with the use of mercury by the mouth. Mr. Dixon, in his early remarks on iritis, condemns belladonna; in his later work he speaks timidly of its use as an appendage to other treatment. The cases here recorded prove Gräfe to be correct in claiming atropine as the sheet anchor, and in making other remedies subordinate.

William Lawrence and most ophthalmic writers give mercury by the mouth, and do not mention its introduction by the skin. They speak of the coincidence of the improvement in the symptoms with the first appearance of constitutional effects of mercury, and make this the signal for reduction, not as I have done, for the entire omission of mercury.

Bloodletting, local and general, is usually urged as indispensable in iritis. That it is not so I think the foregoing cases prove. I believe, however, that local bloodletting may be a valuable addition to other means of treatment, and that it facilitates the absorption of atropine and accelerates its effects.

Note on the Action of Atropine.—Writers on iritis generally rest the credit and value of atropine or belladona on its powers of dilating the pupil, in setting at rest the muscular tissue of the iris and ciliary body, and in diminishing the risk of the formation of synechiæ. I cannot, however, but suspect that it does more than this—that it acts as a direct sedative on inflamed and congested tissues, and that much of its power depends upon its influence in contracting the bloodvessels. I cannot in any other way explain the remarkable value of this drug in many cases of ulcer of the cornea, and so-called strumous ophthalmia, a large proportion of which I treat by atropine only. Nor can I explain in any other way the immediate improvement, and rapid and complete recovery, by means of atropine alone, of many cases of syphilitic iritis.—That atropine does reduce the size of bloodvessels I have no doubt, having several times satisfied myself of the fact by observing the calibre of delicate vessels traversing the cornea, before and shortly after the instillation of atropine.—*London Ophthalmic Hospital Reports, Boston Med. and Surg. Jour.*

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

Cases of Lithotomy. By Joseph W. Smith, M. D., Petersburg, Virginia.

Case 1.—A little negro girl, seven years of age, of Petersburg, Va. Saw this case, for the first time, about the 1st of January, 1860; found her very much emaciated, frail and ill-grown. She had been suffering with pain and incontinence of urine for four years, and was scarcely able to move about. There was a constant escape of urine, which had caused great soreness and irritation about the vulva. The anterior extremity of the vagina was very much contracted and indurated. On passing a sound into the bladder, I detected for the first time, the presence of stone. The position of the stone was on the posterior side of the neck of the bladder, pressing on the vagina. I moved the stone from its position to the fundus of the bladder, which afforded much relief. There was great irritation of the rectum, as well as of the vagina. After micturition, or evacuation of the bowels, her sufferings were intense, the latter being always accompanied with prolapsus of the rectum, the bowel not returning for fifteen or twenty minutes. The external labia were very much swollen and irritated by the constant friction and pressure made with the finger to relieve the pain. I ordered an anodyne, composed of Spts. of Nit. (dul.); Spts. Camph., Tinc. of Hyos., Tinct. Opii., with a wineglassful of water-melon seed tea, three times a day. Her sufferings were very much alleviated by the treatment.

Owing to the inclemency of the weather, I was compelled to postpone the performance of the operation for some time. After having submitted her to a course of preparatory treatment, I decided to operate on the 29th of February, 1860. On the night previous, I gave her a mild purgative which operated well on the following morning. On trial I found dilatation of the urethra impossible, owing to the great irritation and sensibility of the parts. I determined to adopt the *urethral method*, or urethrotomy. With the assistance of several medical friends, I placed the patient in the position for perineal lithotomy, and then put her completely under the influence of chloroform and ether. I proceeded to operate, by introducing into the bladder, a straight, short staff, used in operating on females. With my left hand, I depressed the instrument, whilst the assistant, with his right hand, pressed the mons veneris upward.

With my right, I conducted a straight probe-pointed bistoury along the groove of the staff, and incised the anterior two-thirds of the urethra, upwards to the infra-pubic ligament. On introducing my little finger, I found the stone to be much larger than I anticipated. With the index finger, oiled, and by a slow and gradual pressure, I dilated the neck of the bladder and sphincter freely. Along the side of the index finger of the left hand, I introduced a pair of long duck-bill forceps, into the bladder, and then passed the index finger of the left hand into the rectum and pressed the stone up from the fundus of the bladder, and was successful in catching the stone, its long diameter corresponding with the length of the forceps, and with gentle traction it was extracted, with great facility, entire.—The calculus measured a quarter-inch in its long diameter, and two and a quarter inches in circumference. It was composed of phosphate of lime and uric acid. Very little hæmorrhage attended the operation. After it, the bladder was syringed out, with flax-seed tea, and the patient replaced in bed, with her knees tied together. I then gave her a dose of the anodyne mixture.

On the following night, she had an accession of fever, some heat of skin, and I ordered a diaphoretic mixture of Spts. Nitre.; Vin. Ant.; Liq. Ammon. Acet.; a dose every three hours. She slept very well all night, and complained of no pain, except when passing her urine. She retained her urine for three or four hours. On the third night after the operation, I found her with some fever, cough and suffusion of the eyes. On the following morning rubeola made its appearance. I continued the diaphoretic mixture, with warm flax-seed tea. On the next morning I found the eruption had made its appearance very freely, and was accompanied with a great deal of fever, with tenderness on pressure of the stomach and nausea. I gave her a dose of the anodyne mixture. On the fifth day after the operation, there was very little pain in passing her urine. She now slept very soundly day and night, without the anodyne, a peculiar symptom I have observed, subsequent to the removal of the cause of irritation in the bladder. I first observed it, in a case operated upon by Dr. P. C. Spencer, of this City, where a little boy had a very large calculus in the bladder. After its removal, he slept nearly ten days, night and day, except when taking nourishment.—On the eighth day after the operation, she retained her urine six hours, and got up to the vessel when she wished to pass her urine. She was very much debilitated by the attack of rubeola, but her appetite improving, I ordered beef and chicken soup. The kidneys acted very well under the use of buchu and fluid extract pareira brava, equal parts. Dose: teasponful three times a day with a little water.

The edges of the divided meatus, had contracted very much, and were in close apposition. On the fifteenth day after the operation, I allowed her to get up and walk about the room. She retained her urine perfectly during the day. She continued to fatten and improve. On the twentieth day after the operation, I discharged the case perfectly cured, and without a single unpleasant symptom.

It is now nearly six years since I operated, and she is in the enjoyment of perfect health, and has grown very much. This case has demonstrated the great power of *dilatation* in the neck and sphincter of the bladder, and the rapidity of the contraction, subsequent to the dilatation, for the removal of so large a calculus from so young a subject.

Case 2.—Master E. H., son of Col. H., of Prince George County, Va., five years of age, was brought to my office, on the 15th of October, 1861. He had suffered for several years with symptoms of stone in the bladder, frequent micturition, attended with great pain in the glans penis, occasionally unable to pass his urine.

After putting him under the influence of chloroform, I introduced the steel sound, and detected, for the first time, the presence of stone, and it had passed to the membranous portion of the urethra. I withdrew the sound and introduced a very long and delicate pair of forceps, and succeeded in removing the stone to the anterior portion of the urethral canal. I found it too large to pass through the meatus urinarius, and was compelled to use the knife and divide the meatus on the posterior side for three or four lines, and then succeeded in removing a stone four lines in length and three lines in diameter. The wound healed very kindly and he has never suffered with any symptoms of stone since.

Case 3.—In the person of a little boy, seven years of age, son of Mr. S. T., of Prince George County, Va., who had been afflicted with symptoms of stone in the bladder, for several years. I saw him for the first time about two years ago, at which time he was put under medical treatment, and returned to his home, intending to return and be operated upon, but owing to an advance of the Federal forces in that part of our State, he was cut off from this City, and I was unable to see him. On the 12th of Oct., 1865, he was brought up to this City and put under my charge. He was in much better condition and health than is apparent in most cases, that have suffered so long from the presence of stone in the bladder. He suffered great pain at times, and whenever he attempted to pass his urine, he suffered torture, and was beyond all control. He would roll on the floor, and his screams might be heard at a distance. He had pulled at his penis, until it had become very

much elongated for a child of his age and very much excoriated at its base. The rectum would prolapse whenever there was an action of his bowels. After sounding the bladder and detecting the stone, I subjected him to a course of medical treatment, preparatory to the operation, using the Diuretic Mixture three times a day, with water-melon seed tea, and had the bowels well acted upon and put in a healthy condition.

On the 17th of Oct., 1865, having given him on the previous night, a dose of castor oil, which acted, I operated next day on him; adopting the *following method;* using a steel curved sound, with the groove in the centre, a long sharp-pointed scalpel and a pair of duck-bill forceps. After putting him fully under the influence of chloroform, I made an external incision, corresponding with the ordinary lateral operation, cutting freely, at first, and then proceeding more slowly and cautiously until the staff is reached, and the membranous portion of the urethra opened for six or eight lines up to the prostate. I then lay aside the knife, and introduced the index finger of the left hand, well oiled, along the side of the staff, and by a semi-rotatory movement of the finger gently and cautiously conducted, *dilate* the neck and prostate gland sufficiently to enable me to introduce the forceps. If necessary from the size of the stone, I introduce a long probe pointed scalpel and incise the prostate on my finger. I introduce the forceps well, and grasp the stone. I withdraw the forceps very slowly and cautiously with a rotatory movement using the forceps, as a dilator, in their exit from the bladder. In this mode I removed a mulberry calculus from his bladder, oval in shape and weighing one hundred and sixty-seven grains, eighteen lines in length, and nine lines in short diameter.

On the following night, I found him with some fever and hot skin, restless and disposed to talk, and complains of the pain from the passage of urine through the wound. I ordered cold flax-seed tea, with lemon juice as a drink, and the anodyne diuretic, with the water-melon seed tea, every four hours. On the next morning, I found him with less fever and more quiet; ordered the same medical treatment and diet, cold tea and crackers. At night I found him without fever, with a little moisture on the skin, and pulse soft and not excited. The bowels had not been acted upon since the operation. At bed-time, I ordered 3 grs. of Hydr. Chlor. Mit. and Pulv Ipecac. et Opii. 2 grs., to be followed in the morning with a drachm of Ol. Ric., and fifteen drops of Ol. Terebinthi. It acted very well, and was the last medical treatment instituted.—His appetite improved, and his general condition also. On the eighth day from the day of operation he passed his urine per

urethra voluntarily, and the quanity diminishing every day, passing through the external wound, which presented a very healthy appearance, and healed very rapidly as soon as the urine ceased to pass. His improvement was uninterrupted, with one exception of a chill, which eight grains of quinine arrested, and in six weeks more from the day of operation, I discharged him. He is at the present time in the enjoyment of perfect health.

Case 4.—J. R., mulatto, aged seven years, from Dinwiddie County, Va. I saw this case for the first time, July 15th, 1865, at which time he visited this City for the purpose of being operated upon for stone. In a few days after his arrival in this City, he was attacked with diphtheria, which continued for some time; he suffered very much from the effects of this disease, and was so much debilitated thereby, that I recommended his return home, and postponed the operation, putting him under treatment. I did not see this boy again, before the 1st of December following, at which time he returned to this City. I found him very much emaciated, and so feeble that he could not walk or stand. Whenever the bowels acted, the rectum prolapsed, and his sufferings were very great during micturition. The urine passed in very small quantities, and, at times, with the greatest torture and agony. He presented the most perfect picture of pain and suffering imaginable.

He had recently suffered with intermittent fever. I ordered him to return home, and introduced the sound to remove the stone from the neck of the bladder; this gave him great relief. I then subjected him to a tonic and chalybeate treatment.

On the 15th of April, 1866, he returned, when I found his condition and general health much improved, and he had so far recovered his flesh and strength, that I considered him in an excellent condition for the operation. After some preliminary treatment, I operated on him on the 20th of April, in the mode previously described, (having first put him fully under the influence of chloroform,) and successfully removed from his bladder an immense stone, for one of his age; very extraordinary in shape, nodulated and resembling a ground artichoke in appearance. The accompanying wood cut is an illustration of it.

Its chemical composition, was phosphate of lime and magnesia, its weight Apoth., 325 grains, and its dimensions, over one inch and a half in short diameter, and one inch and three-fourths in long diameter.

He reäcted very soon from the effects of the operation. I found him on the following evening doing remarkably well, though complaining of some pain from the passage of urine, through the external wound. I ordered a dose of the anodyne mixture, with a wineglassful of water-melon seed tea three times a day. This was the only medical treatment instituted. In forty-six hours from the date of the operation, he passed his urine per urethra. The external wound healed very rapidly, and in four weeks from the date of my operation, he was discharged cured, and in the enjoyment of perfect health.

The preceding cases have been described, simply to prove and establish, as far as they go, the fact, that large calculi can be removed with facility without injury to the neck of the bladder, or the prostate gland, and without that extensive cutting, ordinarily recommended in lithotomy. The method I have described simplifies the operation, and when properly executed, greatly diminishes the dangers and hazard attending its performance; there is less internal wound, less hæmorrhage, less chance of infiltration of urine, while the ability of the patient to retain his urine, is greatly increased, a fact of much value and importance.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

PARIS, February, 1867.

I have seen recently, a pamphlet published by Dr. Ladé, of the Pourtalés Hospital, at Neufchatel, upon the influence of different diseases, and in particular of typhoid fever upon the temperature of the human body. A new impulse having been given lately to investigations of this nature, and their utility becoming daily better appreciated, will serve as a sufficient warrant for furnishing an outline of M. Ladé's views. An historical notice, at the beginning, states that, in times long gone by, it had been observed that the temperature of the body was increased in feverish affections.—Galen considered this increase as constituting the very essence of fever, and in succeeding ages this element for establishing the diagnosis was not neglected, though from the imperfect means then at

the command of medicine, the results obtained were necessarily approximative. Bœrhaave, is his aphorisms, appears to be the first author who makes mention of using thermometrical research. Van Swieten, too, speaks of the thermometers employed, but the only result he gives, is the temperature of the human subject in the healthy state. This he finds to range between 95 and 96 degrees Fahrenheit. M. Ladé thinks that De-Haen, of Vienna, in a work published in 1761, establishes clearly, for the first time, the importance of this means of diagnosis. De-Haen began by ascertaining what is the temperature of the body when in health, and what are the circumstances which may give rise to variations. His attention was next turned to sick persons, and many were the interesting discoveries he made; for instance, he found that during the chill which precedes intermittent fever, the thermometer ascends and attains a maximum which is not exceeded during the period of warmth. Another observation was, that the temperature occasionally becomes higher, and that to a marked degree after death. It was not until 1846, however, that the thermometer began to be generally adopted by Zimmermann, Bærensprung and others.—When the impulse was once fairly given, the immense importance of this instrument caused observations to be taken on all sides, and at present its value, in establishing the diagnosis and the prognosis, is not contested. The normal temperature of man in a state of health is 37 Centigrade degrees. (It is known that the 0° of the centrigrade graduation corresponds to 32° Fahrenheit, and that 100° Centigrade represent 212 divisions of the Fahrenheit scale.)* This figure remains uninfluenced by ordinary atmospherical variations, and is true especially for cold, which is endured better than heat, on condition, however, that proper diet and muscular exercise be at the command of the person subjected to extremes of cold. Chossat experimenting upon pigeons, deprived them of food and made them remain at rest; from day to day did their temperature decrease, until death occurred, when the thermometer noted a loss of 16 degrees of heat. The temperature varies in the different parts

* To obtain the Fahrenheit equivalent for any degree of the Centigrade scale, multiply the Centigrade degrees by 9, divide by 5 and add 32.—Ed.

of the body, the mouth being at times warmer and again colder than the axilla, which always remains some tenths of a degree below the heat of the rectum and vagina. While Becquerel and Breschet say that the arterial blood contained in the left cavities of the heart and in the large vessels, is in general 0°.65 warmer than that found in the opposite side of the same organ, Liebig supports the contrary assertion, and gives from 0°.04 to 0°.1 in favour of the venous blood. Colin takes the same view with Becquerel and Breschet, but furnishes a higher figure, (from 0o.28 to 1o.11) than these observers. Bærensprung says that the temperature of a fœtus exceeds, by half a degree, that of its mother; that from the time of birth until the age of thirty it goes down gradually; after that period it remains stationary. He has found, too, that for an adult, the minimum of temperature occurs at an early hour in the morning. From then, on until evening, a gradual increase takes place, but during night the mercurial column falls, so as to reach its minimum again the next morning. After a meal there is an elevation of temperature, and after prolonged muscular exertion J. Davy observed the thermometer to indicate an increase of from three to seven-tenths of a degree, whilst mental activity produced a corresponding variation, though to a smaller extent. As to the manner in which observations of this kind are to be conducted, it will be found sufficient, as a rule, to note the temperature morning and evening. At times, however, the exacerbation, which usually occurs towards nightfall, takes place at an earlier hour, and in these instances it is necessary to apply the instrument a third time. There are cases, too, in which more than one exacerbation happens daily, or in which the temperature seems to adopt an intermittent form, as is noted in intermittent fever, pyæmia and the puerperal affections. Here the peculiarities offered by the fever, require to be studied by frequently using the thermometer.

Starting from the principle that fever, whatever may be its nature, never exists without an elevation of temperature, important consequences follow from the facility which the thermometer affords for the observation of this augmentation of heat, and which gives more reliable results than the pulse, so subject to vary from moral and other influences. The temperature of a healthy person being

37 Centigrade degrees—allowance must be made for a few tenths above and beneath this figure—whenever the thermometer reaches 38° there is fever. When 38° are found in the axilla, the Physician can, without heeding other indications, have no doubt as to the existence of feverish symptoms. Every one knows what slight influences cause variations of the pulse independently of fever, and hence how important an element of prognosis the thermometer affords, as in the following case supposed by Dr. Ladé: A child suddenly refuses the breast, cries, has delirium, convulsions, pulse 140 or more. The parents send for the medical attendant, who on applying the thermometer, finds the temperature within its ordinary range, notwithstanding the presence of the foregoing alarming symptoms. M. Ladé asserts that when this occurs, the result given by the thermometer must alone be consulted, and that a favourable prognosis can, with entire safety, be drawn, for the child is not even threatened with an acute disease, and the probabilities are, that on the morrow every vestige of the disorder will have disappeared.

Uhle and Wagner say, that on a healthy person it requires 70 seconds for the mercury to ascend one Reaumur degree, whilst the same ascension takes place in 42 seconds in a case of fever. The importance of this observation is manifest, for with a little practice, when the thermometer is applied, from the rapidity with which the mercury goes up, it is possible to know beforehand, whether the normal temperature will be greatly increased. Another important point attending this means of investigation, is that it permits the prognosis of acute affections to be satisfactorily established shortly after the outset of the disease, for the two observations taken daily are laid upon paper, so as to form a thermometrical curve, from the height of which the probable termination can be ascertained, and in doubtful cases this curve may also throw light upon the diagnosis, for repeated observation has shown that a malady is generally represented by a curve uniform in its type. M. Ladé says that 41 .75 is the highest range of temperature in which a cure was obtained.—This happened, once only, in a case of tertian ague, and is an exception without precedent, for the rule is, that if a disease be destined to come to a successful close, the temperature rarely

exceeds 41°. Those maladies which, at their outset, are marked by strong chills, or which at different periods of their progress present the same symptom, usually furnish the highest thermometrical elevation, and that too in the space of a few hours. This remark is specially applicable to intermittent and puerperal fevers and pyæmia. In cases where fever exists before any local signs can be detected, as in typhoid and typhus fevers, variola, scarlatina, and measles, the temperature is high (from 40 to 41°.) Where, on the other hand, fever comes on after the manifestations of local disorder, and appears to result from organic alteration, as in encephalitis, Bright's disease, etc., the temperature does not attain so high a degree, but varies between 38, 39 and 40°. The same fact is noted in inflammations of the serous and mucous investments, in the first of which, the thermometer rarely goes up to 40°C., and in the latter, seldom reaches 39°. In these maladies and others of a similar kind, which can be termed local, notwithstanding the perils to which the organism may be subjected, the temperature not only remains lower than in infectious or exanthematous disorders, but its oscillations are more regular and less sudden in their occurrence. In every disease which terminates fatally, the maximum of heat may surpass the figures given above, and 41°.5 C., 42° C. or more, are not unfrequently met with during agony, as well as during the last few days of life. This is very important in establishing prognosis, for when the thermometer marks from 40°.5 C. to 41° C., the patient is in real danger; when from 41° C. to 41°.5 C. are observed, a speedy death may be predicted with almost complete certainty, whilst no hesitation exists when the instrument shows 42° C. or beyond. I have had repeated occasions of satisfying myself of the accuracy of this statement made by M. Ladé, still I have met with frequent exceptions to the rapidity with which he predicts the coming of death when the thermometer shows from 41° C. to 41°.5 C. I have lately seen two cases of symptomatic pleurisy, in which life was prolonged for eight and ten days after 41° 7 C. and 41°.8 C. had been reached. It must be added, however, that in the meanwhile, the different oscillations were beneath the level of these figures; but this effected merely the term of the prognosis. After having ascertained the greatest elevation, it becomes interesting to

find out the difference presented by the thermometrical curve, at the morning and evening observations. In the state of health the latter is a few tenths higher than the former, and such is also the case in febrile affections, in which, however, it is necessary to remark that at the beginning, in the period of increase, the morning temperature may be higher than that of the previous evening, whilst towards the successful close of the same malady, at night the thermometer may give a lower figure than that observed in the morning. Leaving aside exceptions of this nature, it is a rule, that the temperature is highest in the evening, and the contrary result, if often obtained, has an unfavourable influence upon the prognosis, and permits, at times, the appearance of a complication to be anticipated. The numerical difference between the degrees observed in the morning and at night, may serve to distinguish various febrile types, one from another. When in the morning the temperature is not much lower (from a few tenths to one degree) than that noted the previous evening, a continued fever is at hand, and the prognosis is kept in suspense, for the organism soon falls a prey to these fevers. The remittent is the form of fever most commonly met with, the morning temperature ranging from one to two degrees lower than in the evening, without, however, reaching the standard observed in a state of health. There is also an intermittent type, whose oscillations give rise to corresponding thermometrical fluctuations. M. Ladé furnishes the history of a case, with the view of proving that very high temperatures can be endured for many weeks, provided they daily alternate with a return to the natural condition. During three months, the temperature every night increased very much, but by the next morning decreased to, and even went below 37°. I append a few of the results noted in this interesting case.

June, 1865.	*Morning Observation.*	*Evening Observation.*
9th	C. 36° 7	C. 41°
10th	35 9	38 7
11th	35 9	42
12th	36 5	39 5
13th	36 1	40 1
14th	35 5	39 5
15th	36 6	40 5

The disease was sub-acute tuberculosis.

A continued, high fever cannot, on the contrary, go on for over two weeks without bringing about a fatal termination. At the beginning of nearly every acute disease, the thermometer ascends rapidly, and in about 36 hours it will have very nearly attained its greatest elevation.

This ascension takes place at times in a uniform manner, whilst at others, there are breaks in its progress. Occasionally the initial ascension is extended so as to cover a period of several days, and this is especially true of typhoid fever. In febrile disorders the advent of convalescence is attended by a depression of the thermometer, which Dr. Ladé styles "dèfervescence," and which may follow two different channels, so to speak. Either the fever disappears gradually; the morning depressions becoming better marked, and the evening elevations less high; for instance, in the second period of typhoid fever, and in that which comes on after amputation, or else, the temperature comes down steadily, and in from twenty-four to forty-eight hours the patient is entirely free from fever, as is the case in pneumonia. M. Ladé adopts the denomination of "hyperpyrectical," which Wünderlich applies to those very high degrees of temperature observed shortly before death, and which he attributes to the beginning of a general paralysis. In typhoid fever, pyæmia, and other maladies, death is announced by a thermometrical elevation of 41°.5 to 42°. These hyperpyrectical temperatures are not uncommon towards the close of diseases of the nervous centres. The section of the vascular nerves of motion, it will be remembered, produces also an unusual degree of heat.

Uhle mentions two cases of epilepsy, in which, notwithstanding several attacks daily, the temperature had remained at 37° C. In one of these instances, before death the thermometer went up to 42° C., and in the other to 42°.5 C. M. Ladé says that sometimes the temperature continues to ascend, even after death, and gives an observation made by Wünderlich of a case of spontaneous tetanus, in which, at the moment of death, the thermometer marked 44°.75 C., and after the lapse of half an hour, was found to have gone half a degree higher. M. Ladé thinks that this figure, 44°.75 C., has been met with once only in the human subject. In an observation of his own upon traumatic encephalitis, the thermometer showed

42°.4 C ; when the patient expired five minutes later it had gone one-tenth of a degree higher, and remained at 42°.5 C. for over an hour.

When in the course of an acute affection, the temperature goes down rapidly, it appears unable to stop at the healthy standard, but continues its descent until 36°.4 C., 36°.3 C. for instance. This frequently coincides with an improvement in the condition of the patient, and occurs in pneumonia and other febrile disorders, in which the thermometer speedily reäscends to 37 C. This species of irregularity, or want of guiding power in the descent, is very common in diseases of miasmatic origin. Here the prognosis is favourable, but, on the contrary, in pyæmia, puerperal fever, certain varieties of hectic, these wanderings below the mark are of evil omen.

Collapse is the state opposite to fever, and is characterized by very low temperature, a thready pulse, etc., and generally comes on suddenly, with or without cause. Its prognosis is ordinarily unfavourable ; thus, in a case of symptomatic abscess of the thigh, which had lasted for eleven months, and in which there were double tubercular deposit, and a purulent inflammation of the pleura, the thermometer had for several weeks remained above 39° C., when twenty-six hours before death it went down from 39°.6 C. to 34°.9C., and only ascended a few tenths of a degree during agony. In other instances, however, the temperature may again become febrile without changing the prognosis, which may be looked upon as very unfavourable whenever the thermometer goes beneath 35°.5 C. Attention to the collapse period of cholera is important, for in this disease the temperature descends to 35° C., and even lower. When this figure is reached, very little hope remains.

I am indebted to a friend for a very curious observation of typhoid fever, terminating fatally from cholera in a few hours, and in which the thermometrical descent was very rapid. The curve corresponding with the typhoid fever, presents the regularity usually noticed in this malady; little by little the thermometer is going down towards its healthy standard, and on the night of Aug. 7th, 1866, had reached 38° 4. Cholera was at this time raging in this city, and the patient felt its influence that night. The next morning he

was a corpse, and at the moment he died, the thermometer showed 34°.

M. Ladé relates the history of a patient severely scalded by steam, over a large surface of the body, and whose temperature, eighteen hours before death, was 33° and a few tenths. He asks whether this constantly obtains in extensive burns, and thinks such may be the case, from the fact that the dermic lesions are the same when due either to great heat or to excessive cold, and as he recalls, in support of his veiws, a case where the tissues were frozen, and where the thermometer varied between 35°.5 C. and 36°.8 C., until the fever of suppuration set in, he thinks this question worthy of examination; 32°.5 C. in the axilla are the minimum of temperature, M. Ladé has observed. This was noticed in a case where an old man had fallen, and fractured the fourth and fifth cervical, and ninth and tenth dorsal vertebræ. The same evening, the thermometer went up to 34°.8. In those chronic diseases, where there is no fever, but where marasmus is more or less marked, and where the nutritive process is sluggish, the temperature is usually low, especially in the morning, as is seen in slow tuberculosis, chronic dropsy of the pleura, Bright's disease, diabetes mellitus, etc. The same result obtains during the convalescence of acute maladies, in instances of poor diet, and advanced age. I have endeavoured to furnish a sketch of these views of Dr. Ladé, from the fact of their being the most recent upon the subject, and also because thermometrical research is now the order of the day here, as the lessons of M. Chariot at the "Salpetriere," and the investigations made during the late epidemic of cholera, and which are daily continued at nearly every bedside in the hospitals, testify.

The confusion which had been produced by so many deaths and resignations, occurring among the Professors of the School of Medicine in this City, is gradually disappearing with the new nominations which have been made to fill the vacant posts.

M. Béhier takes charge of the clinical department at the "Pitié" hospital, M. Monneret remaining in the same capacity at the "Charité," whilst M. Gasselin goes to the "Pitié" to direct the official Chair of surgical instruction, lately established in that

hospital. In consequence of MM. Monneret, Béhier, and Gosselin, having become clinical professors, it was necessary to replace these gentlemen in their duties of internal and external pathological teaching, and accordingly MM. Broca, Hollin and Verneuil are candidates for the surgical branch, whilst numerous competitors are in the field to occupy the positions vacated by MM. Monneret and Béhier. It is nearly certain, however, that MM. Broca, Axenfeld and Hardy will be the new Professsors.

During the last few months, ovariotomy has been performed three times in this City and in its neighborhood. M.M. Gosselin and Labbé operated successfully, just without the walls of Paris, on a young woman twenty-seven years old. M. Maisonneuve failed in a case he had in his wards at the Hôtel Dieu. As if to give another proof of the danger of such operations in large centres, and to show the beneficial results to be obtained from the purer air of country localities, Dr. Marion Sims has recently brought a case of ovariotomy to a successful close at St. Germain-en-Laye, near Paris. T. L.

Pisa, Italy, January, 1867.

I have to-day, the satisfaction of reporting to you the solution of one of the most interesting problems of physiology. Prof. Schiff, whom I had occasion to mention in my last letter, has succeeded, in demonstrating, by a series of one hundred and forty-one experiments, the *non-existence of the so-called glycogenic function of the liver*, when in a state of health. Considering the great interest which this question has from a purely scientific point of view, and considering, above all, its practical bearings on the treatment of diabetes, it must seem strange, that the results of Prof. Schiff's labours, which were finished a year ago, have remained so long unnoticed. In the London *Medical Times and Gazette* of May 12, I find a brief account of a rather superficial argumentation of Monsieur Mialhe's, respecting the neuropathic nature of diabetes. But it is evident that neither M. Mialhe nor the reporter of his ideas could have had any cognizance of the brilliant achievements of the (now) Florentine Professor. A short recapitulation of the various phases through which this question has passed will enable us better to appreciate those achievements.

That the liver of every animal, (at least of every warm-blooded animal and most cold-blooded ones,) when treated with the usual chemical tests, yields a certain quantity of sugar, has never been denied, since it was first asserted by Claude Bernard, nearly twenty years ago. The same physiologist having also found that a liver, after having been drained of its sugar, never fails to yield a fresh supply of sugar within twenty-four hours, it was inferred that the liver has the power of producing sugar during life; that the production of sugar was one of the normal and permanent functions of the liver, and that, owing to an action of the hepatic cells on some albuminoid substance contained in the blood of the liver, the glycogenic power could not fail to continue after death. Moreover, from the fact that the liver of frogs in a state of hibernation formed the only known exception to this rule, Bernard rashly concluded that the healthy liver, by producing sugar, ministered to one of the normal wants of the animal system, and that the presence of sugar was necessary for the formation of the primitive cells.

This last assertion was completely confuted some years ago, by Prof. Schiff, who showed that some other reptiles, when *not* in a state of hibernation, were as free from sugar as hibernating frogs. But the experiments undertaken for this purpose, led to another and quite unlooked for result, by showing that the liver of a hibernating frog, which contains no trace of sugar immediately after death, begins to yield considerable quantities of it forty-eight hours later. If this discovery had been made by Bernard, he would at once have recanted and publicly declared that the living healthy liver has nothing to do with the production of sugar. But although such a conclusion would have been infinitely more logical than Bernard's former syllogisms, Prof. Schiff seems to have been too cautious to venture on it. He contented himself with announcing the interesting fact, that the relative quantity of sugar in any animal's liver increases steadily for two or three days after death, when it reaches its maximum, and that it then begins to decrease again.

Bernard's original doctrine, therefore, that the healthy living liver was a sugar-producing organ, continued to be the doctrine of the day, and Lehmann's subsequent discovery, that the blood of the *vena portarum* is free from sugar, while that of the hepatic veins contains a great deal, seemed to have afforded an additional proof of Bernard's theory and made his position apparently impregnable. When, shortly afterwards, Bernard and, simultaneously, though independently, some German physiologist discovered an amylum-like substance in the liver, called *glycogene* by Bernard and *inuline* by others, it seemed as if the very *modus operandi* of

nature had become intelligible. The hepatic amylum could be transformed into sugar only by some diastatic ferment, and this being so, it was established, that the blood of every healthy animal contains a certain, yet undiscovered and nameless ferment.

The faith in these doctrines was first shaken by Pavy, who, but a few years ago, published an account of certain experiments of his, that had led him to believe that the formation of sugar in the liver was altogether a *post mortem* phenomenon; that it was probably one of the very first stages of cadaveric dissolution, and that sugar would never be found in a dead animal's liver, provided no time was lost in extracting and examining it. He admitted the existence of a ferment in the blood, but argued that life had the power of annulling its diastatic action on the hepatic inuline, which action could only reäppear in certain diseases and after death. Pavy's ideas were not popular, the tendency of modern physiology being far too materialistic to admit arguments like this, founded on the hypothesis of a transcendental agency, and they would probably have remained unheeded still longer, had not the first part of Pavy's assertion been corroborated by the researches of two German physiologists, Meissner and Jäger.

They took every imaginable precaution, in order to reduce to a minimum the interval of time between the animal's death and the extraction of its liver, which was at once plunged into boiling water and then analysed or tested. They chose only small animals for their experiments, lest the time necessary for the extraction of the liver of a dog or a larger animal, might be deemed long enough for the possible formation of sugar. They even excluded etherization and all those proceedings which might excite the animal's circulation. The result of their conscientious researches has been a complete confirmation of Pavy's opinion, that the *transformation of the hepatic inuline into sugar, whatever the cause of it may be after death, does not take place in the living body, if in a state of health.*

Such was the state of things when Prof. Schiff took the matter in hand in 1865. The problem was only half solved. It was proved that a healthy liver does not produce sugar during life; that it always does produce it after death; and that it always contains, during life, one of the two factors of the saccharine product, viz: the inuline. But the other factor, the diastatic ferment in the blood, was still a mere hypothesis. Prof. Schiff's object was, therefore, to ascertain, above all, whether the living circulating blood contained such a ferment, whose diastatic action was supposed to be neutralised by the vital force. To do this, he injected a solution of starch into the jugular vein of healthy rabbits. By

way of counter experiment he injected pure water into the jugular vein of some other rabbits. These latter were killed half an hour afterwards and as they were found to contain no sugar, he justly concluded, that the emotion and excitement caused by the operation as such, were not sufficient to induce the formation of a ferment in the blood. In all the other rabbits, (injected with amylum,) he found considerable quantities of sugar in the blood as well as in the liver. The conclusion, therefore, that the blood contains a latent ferment, was tempting and almost irresistible. Nevertheless the circumstance that the *relative* quantity of sugar was found to be greater in the liver than in the blood, (which ought not to be, the supposed blood-ferment being admitted not to act on the hepatic inuline, but only on the injected one,) suggested to Prof. Schiff a doubt as to whether the ferment really *preëxisted* in the blood, or whether a ferment had not been *introduced* into it with the amylum.

Amylum contains two substances known under the names of *granulosa* and *cellulosa*, of which only the former is capable of being transformed into sugar by the diastasis. The cellulosa, though soluble in boiling water, is not soluble in saliva. Now, it was found, that a solution of granulosa *alone*, when injected into the veins, did not induce the slightest formation of sugar in the blood. The ferment, therefore, which had produced sugar in the former experiments, (where amylum, i. e., granulosa *plus* cellulosa was injected, and which, *a fortiori*, would have produced sugar with pure granulosa free from cellulosa,) could not have preëxisted in the blood. Hence it is evident that that ferment was nothing else but the cellulosa contained in the injected amylum.

The circulating healthy blood, therefore, being quite free from ferment, the non-production of sugar notwithstanding its inuline, is completely accounted for, and if ever a ferment were introduced into the blood, by injection or by disease, the inuline would never fail to be duly transformed into sugar, and vitality alone could never prevent it.

On the other hand, the formation of sugar always taking place after death, it follows that the blood after death must contain a diastatic ferment. And this, too, Prof. Schiff has proved by two kinds of experiments, which showed (1) that blood taken either from an artery or a vein, soon after the animal's death, and mixed with pure granulosa, invariably changed this substance into sugar, and that (2) the same took place, when granulosa was injected into a tract of bloodvessel contained between two ligatures.

Of course, by saying that death is the immediate cause of the formation of a ferment in the blood, we have merely stated a fact without explaining it. Nor is physiology in its present humour,

likely to find an explanation of such phenomena. But as dead blood differs from living blood not only by its stagnation, but also in temperature and many other things, the question arises, which of these circumstances alone must be considered as the cause of the development of a ferment? Blood drawn from a living animal produces the same effect on granulosa as blood taken from a dead one.

A strong ligature applied for forty minutes round the thigh of a live rabbit, produced a considerable *glycosuria* that lasted twelve hours. Even a simple digital pressure on the abdominal blood-vessels of a rabbit, produced after five or eight minutes, a *diabetes mellitus*, which lasted upwards of two hours.

These, and a great many other experiments show clearly, that *stagnation of the blood is the real cause of the ferment, and that death induces the formation of this ferment only because and inasmuch as death causes a cessation of circulation.*

The very word stagnation of blood must remind us of the vaso-motor nerves, so that, if we were to go a step further and to seek for the pathological causes of stagnation of blood in the living body, it would be easy to say, *a priori*, that it must be caused by a paralysis of some vaso-motor nerve. Long before this province of the nervous system had been explored or even named, Bernard knew that a puncture of the fourth ventricle of the brain produces an artificial diabetes. And Prof Schiff who has discovered, in that region of the *medulla*, the principal node (and perhaps the central organ) of the vaso-motor nerves, has also shown that the section or lesion of *any* great vasomotor branch, even the section of the sciatic nerve, whose vaso-motor fibres have no immediate connection with the liver or the kidneys, is sufficient to induce the formation of ferment in the blood, first of the vessels paralysed, and then of the entire circulation, which ferment, in its turn, induces the formation of sugar in the liver, and the excretion of sugar from the kidneys.

It will, therefore, no longer be admissible to consider diabetes as a functional disease of the liver. Its causes and its nature having been thus completely ascertained, diabetes must cease to be considered as a specific disease and should rather be interpreted as a concomitant symptom of a great variety of functional or organic disorders of the system. Nor can these researches fail to throw a new light on a chapter of therapeutics, of which as yet we have had no reason to be proud.

But here we must part with physiology which may give us the *indication*, but cannot be expected to suggest the *remedy*. The indication, at all events, we have, and we know that to combat the

symptom called diabetes we must either prevent or annul the evolution of the ferment in the blood.

Before finishing this letter, I cannot help inviting the attention of your readers to the researches of Dr. Polli, of Milan, on the medicinal uses of the *sulphites* and *hyposulphites*. They are by no means new. The *Medical Times and Gazette* of June 14, 1862 contained a short account of them and the Italian papers have repeatedly discussed them. Yet, on the whole, these hyposulphites seem to have been less lucky than their *coëtanei* the hypophosphites which were introduced into the medical world about ten years ago. Possibly, Dr. Churchill, of Paris, was a better father than Dr. Polli, of Milan. But whatever the cause of this disparity of fortune may have been, the one seems quite as worthy of attention as the other. The sulphites never pretended to be a specific (like the hypophosphites,) against one particular disease, but merely to do within the human system what they were known to do elsewhere, viz.: to prevent and to check fermentation, and Dr. Polli recommended their internal and external use in all cases of sceptic or purulent affections, and, above all, against the numerous class of so-called *zymotic* diseases. Whether all these diseases deserve their name, is by no means certain, and many other diseases, now called imflammatory or nervous, may hereafter have to be added to the amended list of zymotic ones. But here, at least, that question is irrelevant. If (as Hippocrates says) *naturam morborum curationes ostendunt*, we cannot do better, than to encourage the clinical use of the sulphites, as their action or inefficacy might be considered as a kind of test for the existence or non-existense of the supposed ferment in any given case of disease, though I can see no reason why medical men do not set to work like Prof. Schiff, in a logical and earnest manner, instead of thus stabbing in the dark. Sulphites in the stomach may or may not remain sulphites in the blood, Dr. Polli admits that they are changed into sulphites in the intestinal canal. But if so, how can they act as antizymotics when reaching the blood, or if they do, how can such blood be called zymotic? It seems, that the change into sulphates is a very slow and gradual one, and that the absorption of pure sulphite into the blood depends chiefly on the slowness of this process of hyperoxydation. But the experiments made by Dr. Pollie for this purpose, are not conclusive, and far from being complete.

Nor would your correspondent be justified in dwelling much longer on a subject which, whatever its intrinsic importance may be, has long ceased to be a novelty, and which is pertinent only on account of the close connection existing between the two subjects that have been treated in this letter. The Italian *savans* have for

several years been preaching the antizymotic properties of Dr. Polli's hyposulphites. Prof. Schiff has now proved, with a cogency little known in medical reasoning, that diabetes is an eminently zymotic disease. What then, is more natural than to bring those two isolated assertions together and to recognize in the latter an opportunity for testing the worth of the former? Those who wish to try this clinical experiment and who want further information on the subject of Polli's hyposulphites, I must refer to the *London Medical Times and Gazette* of May 5, 1866, where they will find a brief but sufficient account of the action of those subsalts in pyæmia, eruptive fevers, typhus, malaria fevers and in cattle plague; also as disinfectants for sores and suppurating wounds. For the convenience of your readers, however, I will briefly state here, that of four sulphites of potassa, of soda, of magnesia and of lime, the *sulphite of magnesia* is the one best adapted for internal use. It is given in half drachm doses, ten or even twenty times a day. All acids are its incompatibles, and should be avoided, even dietetically throughout the treatment. It is best tolerated when dissolved in an abundant quantity of water. For the the rest, Dr. Polli stands responsible.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nccens Absolvitur."

MANUAL OF MATERIA MEDICA AND THERAPEUTICS. An Abridgement of the late Dr. Pareria's Elements of Materia Medica, arranged in conformity with the British Pharmacopœa, and adopted to the use of Medical Practitioners, Chemists, Druggists, Students, etc. By Frederick John Farre, M. D., Cantab. F. L. S., etc., assisted by Robert Warrington, F. R. C. S., F. C. S., etc. Edited with numerous references to the U. S. Pharmacopœa. By Horatio C. Wood, Jr., M. D., Professor of Botany in the University of Pennsylvania; 1030 pages, with 236 engravings. Philadelphia. Henry C. Lea. 1866. Cloth, $7.00; Sheep, $8.00. Through Messrs. Woodhouse & Parham, Richmond, Va.

It is not necessary to say anything as to the qualifications of Dr. Pareira, for the preparation of such a Work, or to reiterate the well-known fact, that he has achieved a reputation inferior to that of no one in this department of Medicine.

This Work was, at the period of its first publication, accepted by the Profession, in full acknowledgment of his eminent fitness for the task undertaken. It has become a standard authority in all libraries. Dr. Farre has, in this edition, aided by Professor Bentley and Mr. War-

rington, endeavoured to present the abundant material, originally elaborated by Dr. Pareira, in a more concise and abridged form—all remedies included in this edition, are strictly pharmaceutical. What is worthy of notice especially, is that there are several articles described, which are not to be found in the U. S. Pharmacopœa. Little can be said of this new edition of an old and familiar Work, further than that it is an improvement on previous issues, and in usefulness and convenience of arrangement, inferior to no Work in this department now before the Public. The paper, press-work, binding and engravings are very superior.

Injuries of the Spine, with an Analysis of nearly Four Hundred Cases. By John Ashhurst, Jr., A. M., M. D., Fel. Col. Phys. Phil., Member Acad. Nat. Science, Member Patholog. Society, Phila.; Surgeon to Episcopal Hospital of Philadelphia, etc. Philadelphia. J. B. Lippincott & Co. 1867. Through Woodhouse & Parham, of Richmond, Va.

This manual, in the short space of one hundred and twenty-five small pages, gives a valuable and most efficient exhibit of all that is reliably known, in connection with the interesting subject of which it treats. This information is chiefly given, in well arranged and instructive tables, which will be profitably examined by all who may desire hereafter to prosecute the investigation of this much neglected, but important branch of surgery. Some of the facts connected with the nervous phenomena, consequent upon the lesions stated, are particularly interesting and suggestive.

The author very appropriately writes thus, in regard to the absence of tetanus, in cases of injury to the spinal cord: "Tetanus might, *a priori*, be thought a symptom which would frequently occur in the course of spinal injuries, but I find it noted in only one case, and in that it was proved, by post-mortem examination, to have had an eccentric origin. It was a case of gun-shot fracture of the third lumbar vertebra, and the autopsy showed a contusion of the anterior crucial nerve. This seems to be strong reason for doubting whether tetanus is ever of centric origin, etc."

All testimony in this connection is useful, and could it be generally obtained, would, at least, subserve the purpose of arriving at the truth according to the system of reasoning by exclusion. In many cases of spinal injury observed (during the late war) in Confederate hospitals, no instance of tetanus was seen or reported. In 56,775 cases of gun-shot wound recorded by Confederate Surgeons, there was a proportion of one case of tetanus, in every eight hundred cases. So far as is known, or was made known in debates upon this subject, no instance of tetanus occurred in cases of traumatic injury of the spinal cord. All facts, in connection with this subject will, if reported, be published with pleasure in this Journal. The style of the author is simple and easy, and there is an acceptable absence of all discursive and irrelevant tendencies, so annoying and unprofitable in this book-making age.

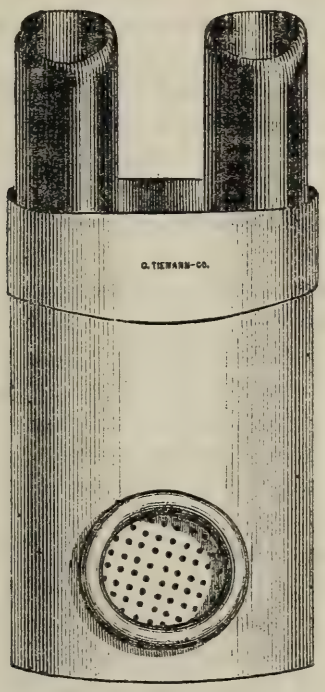
This little Work is handsomely bound and well printed on paper so tinted as to be agreeable and welcome to the eye; this organ being thus protected from that excessive reflection of light, so painful and often injurious, from pages entirely white.

MISCELLANEOUS.

"Non Omnes Eadem mirantur Ament que."—Hor.

A New Inhaler.—We are indebted to Dr. Chisolm, Professor of Surgery in the Medical College of South Carolina, for the useful apparatus, of which a drawing is here exhibited. Dr. Chisolm has long used it as a chloroform inhaler, but we see no reason why its usefulness should not be extended to include the administration by inhalation of any of those volatile preparations which are now deservedly considered remedies of no small value in the treatment of affections of the throat. We learn that when chloroform was scarce in the Southern army, and could only be introduced into the blockaded States at great expense, this apparatus was designed as a chloroform economist, and was found to answer well the purposes expected of it. Its principle of action is similar to the folded handkerchief or towel, which we have always considered the most convenient and safe method of administering chloroform. In the use of the towel or folded handkerchief, we in common with all surgeons, have been made to take chloroform whilst administering it to our patients; and as the greater part of the chloroform poured upon the cloth evaporates into the air of the room, all persons around the patient are more or less influenced by the evaporation. The object of this chloroform inhaler is to confine the volatile fluid to the patient alone, and thereby concentrate its action, and save the great waste which usually takes place from the towel. There are a great variety of chloroform inhalers; most of them are bulky, and made in such a way as to cover both the nose and the mouth. The chloroform being administered in a concentrated form, most frequently causes struggling on the part of the patient to escape the suffocative sensation of the concentrated ether. By the use of this simple apparatus the patient inhales through the nose alone; and should any of the annoying sensations about the throat be experienced, he can immediately relieve himself by opening his mouth. As by its use the patient quietly passes into sleep, all struggling is avoided, the more particularly as no ether can effect the eyes of the patient. The advantages claimed for this new inhaler are, 1st, its simplicity; 2d, safety in its use as a mode of administering chloroform, as the patient must always get a well diluted vapor, sufficiently mixed with atmospheric air; 3d, economy in the use of chloroform, as one drachm is made to do the full work of one or two ounces upon the handkerchief; 4th, the unassuming appearance of the instrument, which does not frighten timid patients, who

would often be much alarmed by the larger and more cumbersome apparatus. 5th. Portability. The entire instrument is not larger than an ordinary lancet case, and can be readily carried in the vest pocket, without inconvenience.



The instrument, as will be seen by an examination of the accompanying drawing, consists of a flattened cylinder of two and a half inches long and one inch wide, in its broadest diameter, having in one of its broad surfaces a perforated plate. Attached to the cover are two nose-pieces. When the instrument is not in use these projections can be pressed into the box, which diminishes the size of the instrument, and makes it a convenient package for the pocket. When the top of the box is removed the interior is found to contain either a piece of sponge, or what is much better, a bent wire, over which is folded a piece of cotton cloth. The chloroform, when dropped through the perforated plate, is received upon the sponge or folded cloth, which offers an extended surface for evaporation.

Those who have tried this inhaler speak of it in unqualified praise. We feel assured that it will very soon find its way into the hands of all who practise the surgical and obstetrical branches of medicine.—*Medical Record.*

The Function of the Muscular Coat of the Urethra—By H. Thompson, F. R. C. S.—In sending a few notes on the use of the endoscope last week (*The Lancet*, p. 436), and in referring to Mr. Heath's remarks thereon, I purposely avoided any allusion in that paper to a statement which he made respecting the physiological function of

the urethra, not wishing to include a discussion of two different subjects in the same column.

Mr. Heath says: "I have noticed in perfectly healthy urethras that there is a constant vermicular contraction of the wall of the canal, apparently passing towards the bladder; and this acccunts for the well-known fact that foreign bodies in the urethra tend to pass in that direction."

I am compelled to believe that the movement of the vermicular contraction, which I have also seen, is precisely in the opposite direction; and also that foreign bodies have a strong tendency to pass outward to the meatus, and not inward to the bladder. The following examples of the tendency to locomotion outward in the urethra may be mentioned:— The expulsion of the few last drops of urine, and of all other fluids; the discharge of gonorrhœa would travel into the bladder, instead of to the external meatus, were it otherwise. The expulsion of injections as soon as permitted by unclosing the orifice of the urethra. The expulsion of a sound or catheter if not held in the canal. The spontaneous cure by nature of a large proportion of all the cases of calculus which occur, by the expulsion of the calculi when small enough to pass, not merely by the urine-current, but also when deposited in the urethra, by its vermicular motion forward; were it not so, stone in the bladder would be one of the commonest of human disorders. The passing of débris by the urethra after lithotrity in the same manner, which I see every day. The issue of a piece of cotton left by the tube of the endoscope; otherwise it would be dangerous to use cotton in that instrument. I prefer tiny sponges attached to find wire. Many other illustrations might be noticed; but these suffice.

The bodies which occasionally find their way into the bladder are bits of bougies, of which the rounded part is towards the bladder, and the rough or broken part towards the external meatus, so that they cannot move otherwise than towards the bladder, and do so in spite of the vermicular motion outward. Again, ears of barley or rye have been introduced with the spikes lying in a direction outward, in consequence of which they soon traverse the canal and arrive at the bladder. The same object will travel up one's coat-sleeve by the same mechanical law.

I have always considered the expulsory action of the urethra as one of the most beautiful and perfect arrangements for protection from many dangers in that quarter, and regard it as in great degree due to the functions of the muscular parietes.—*London Lancet.*

Cattle Plague.—On the question of the cause of the contagion of the cattle plague, the investigations of the Commissioners rendered it probable that it is of the nature of organic particles of epithelium thrown off mainly from the lungs of animals already affected. In nature the disease was shown to be a fever *sui generis*, intensely contagious, but incapable of communication to other animals than those of the ruminant order. The eruption on the mucous surfaces was shown to be epithelial, and not pustular in character. The curious observation was

made that, at the beginning of the disease, in animals which to all appearance were well, the temperature rose. Various other points of great practical and scientific interest were made out by the Commissioners—interesting not only in reference to the cattle plague, but as tending to indicate the nature of other contagious diseases. Among these we should mention the fact, ascertained by Dr. Sanderson, that the blood is so charged with the poison of the disease that this can be produced by inoculating with the serum. We should specify the valuable researches of Dr Angus Smith and Mr Crookes in reference to the disinfection of the poison of cattle plague. Passing from these valuable investigations, we have only to say that the delay which occurred in legislating upon this subject was an instance of the harm which accrues from ignorance on the part of statesmen and other public men of the nature of disease, and imperfect respect for the teachings of medical science. But after all that the nation has suffered for not doing what those best acquainted with the disease from the beginning recommended should be done, and after the complete success which has attended late legislation on the subject, it would be unhandsome to dwell upon this point. It would be unjust to Professor Gamgee not to allude to his valuable contributions on this subject. Though received at first with something like ridicule, it must be acknowledged that, to some extent at least, "he held his own."

We would remark upon the curious fact that, of the two great zymotic diseases of the year, one has been so exclusively limited to cattle, and the other to mankind. The cattle plague has not been more innocuous to men than the cholera has been to animals. Whatever the relations of the lower animals to men, it is well to notice their different susceptibilities to morbid poisons. Professor Huxley has said on this subject, "The poison which hurts animals does not leave us unscathed." But in the cattle plague we have a poison which kills huge animals and leaves us untouched, and in the cholera we have a poison which kills us and leaves all the animals about us, so far as we know, unaffected.—*London Lancet.*

Treatment of Asthma by Nitric Acid.—Having had several cases of asthma to treat, and having had the good fortune to cure at least two of them by the use of nitric acid, I have thought that I would give the profession the advantage—in order that others might repeat the experiment.

It is a well-known fact that the fumes of nitrate of potash will relieve a fit of asthma. It is also known that nitric acid has been extolled by the profession at large, almost a specific in pertussis. It is also known that both of these diseases are spasmodic.

Now, if the nitrous vapor relieve in one case and the nitric acid in the other, why should not these be used in the same disease?

The manner of giving it is to commence with nitric acid iij gtt. three times a day in a glass full of water, and increase the dose one drop every week until the patient has taken six drops; when he should desist for a week, and again commence with the minimum dose. It is an experiment

which can certainly do no asthmatic patient harm, and might result in his recovery.

I have two patients at this time who are using the medicine, and certainly while they are taking it they have not had an attack. D. C. H.—*Galveston Medical Journal.*

Cholera.—Last year will be associated, at least in the history of medicine and the public health, with the cholera. The epidemic came not unanticipated, and, although it has found too many victims, it never found so much effective resistance awaiting it. It is too soon to calculate the whole extent of the present epidemic; but hitherto it has, in London at least, been signally restricted. We are unable to boast of any therapeutical discoveries. In this direction the experience of the disease has not been altogether valueless, though unfortunately it has been chiefly negative. The true pathology of cholera is still hazy in the extreme. The last physiological discoveries of Bernard have been fruitful in explanation of cholera as of every other morbid condition; but, so far, they have not led to any well-sustained theory, or one conducting to any satisfactory method of treatment. The recent researches of Beale, showing the denuded state of the intestinal villi, and the blood-stained condition of the nerves and ganglia around the smaller vessels of the intestine, are of great interest. Dr. Beale is careful to point out that the extensive removal of the epithelium of the villi does not seem to him to be the result of an eliminative act. The villi are organs of absorption, not of secretion or elimination. Not the least important fact is that Dr. Beale reports, that in all the cases of cholera which he has examined, there was evidence of structural change in the *tissues* of the intestine, implying that morbid alterations had been going on for months, and in some cases for years, before death. This piece of physiological pathology accords well with the fact that persons in depressed state of health, or living in unhealthy conditions, *cæteris paribus*, more frequently take cholera than others; and it strengthens the hope, which on various other grounds we entertain, that if we could improve the hygienic conditions of the people, we should be able to reduce the mortality from the presence of the cholera poison amongst us to an unimportant quantity.—*London Lancet.*

The Relationship of Cancer and Tubercle.—Regarding this interesting subject, Dr. Thomas Weeden Cooke in his work, recently published in London, on "Cancer, its Allies and Counterfeits," and based on extended observations made as surgeon to the cancer hospital says:

"For a long time I had looked upon the occasional combination of tubercle and cancer as a curious coincidence, which did not seem to have any practical bearing upon the inquiry as to the nature of cancer. I had seen syphilis and cancer in the same person in rare instances, and the fact of phthisis being a frequent disease in our climate seemed to make it quite natural, that occasionally our cancerous patients

should also be phthisical. I subsequently noticed that adenoid tumors nearly always occur in persons who had phthisical relation; and further, that adenoid tumors sometimes become cancerous. Stimulated by those associations, I have made diligent inquiry, and find, in a very large number of instances, that phthisis exists in the families of most cancerous patients, who have not an hereditary tendency to cancer itself; and that a cancerous parent will often beget children that become phthisical. . . . If, then, phthisis is found to precede and to follow the evolution of cancer in a very marked degree, and if it be a constant *associate* of tumors which *occasionally* take on cancerous action, *how are we to escape the conclusion* that these two diseased products, cancer and tubercle, are *interchangeable creations?* Thus may we fill up the hiatus wanting in the statistics of the hereditary predisposition to cancer, and thus only may we safely and surely build up the theory of the constitutional origin of cancer.—*Medical and Surgical Reporter.*

Dr. Richardson may be fairly congratulated on having added to our harmless methods of producing anæsthesia. There is still some difference of report as to the constant success of the ether spray; but, on the whole, there is concurrence of opinion as to its efficiency in well-selected cases.

The operation of clitoridectomy has been very severely handled by the profession; but, in our opinion, not more severely than justly. The nature of the proceeding calls for the severest criticism, and the success of the operation hitherto has been so doubtful as not to justify the practice of it.—*London Lancet.*

Longevity.—A question which has long been agitated and argued *pro and con* is, whether the work of the brain is injurious to health, and whether it shortens life. In relation to this subject, the Paris correspondent of the *Morning Star* notices that most of the clever men of France reach a great age. Of the members of the French Academy, M. Viennet is 89; M. de Ségur, 86; de Pougerville, 76; Lebrun, 82; Villemain, 76; Lamartine, 76; Flourens, 78; M. Guizot is 79; and M. Thiers 69; Berryer is 74; the Duke de Broglie, 82. The ages of the younger members of the Academy range from 60 to 70.

It is impossible in a review of this kind to fairly represent the good work which is being done in the profession. Some of the best work by which our practice comes ultimately to be improved is either done noiselessly, or the report of it excites but little attention for a time, until its practical bearings become manifest. Of this nature are the labours of Dr. J. Burdon-Sanderson and Dr. Anstie respecting the application of physical methods of the exploration of the movements of the heart and pulse in disease, those of Mr. Lockhart Clarke in the investigation of the morbid anatomy of the nervous centres in various obscure disorders, and those of Mr. Christopher Heath on the application of the endoscope to the exploration of diseases of the urethra;

besides a host of others, whose researches we are always glad to record.

Amongst these it is enough to refer to the use of the clinical thermometer now gradually becoming general in the metropolitan hospitals, the application of the sphygmograph in the diagnosis of aneurisms, the improvements in medical electricity, and the use of chloride of zinc, in solution, to surgical wounds or accidental injuries.

[*London Times.*

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

Medical Department of the University of Louisville, Ky.—*Medical Faculty.*—T. S. Bell, M. D., Emeritus Professor of the Science and Practice of Medicine and Public Hygiene; Lewis Rogers, M. D., Emeritus Professor of Materia Medica and Clinical Medicine; Llewellyn Powell, M. D., Professor of Obstetric Medicine; H. M. Bullitt, M. D., Professor of the Principles and Practice of Medicine; G. W. Bayless, M. D., Professor of the Principles and Practice of Surgery; C. W. Wright, M. D., Professor of Chemistry; James M. Holloway, M. D., Professor of Physiology; L. J. Frazee, M. D., Professor of Materia Medica and Therapeutics; J. M. Bodine, M. D., Professor of Anatomy; A. B. Cook, M. D., Professor of the Surgical Diseases of the Genito Urinary Organs and Rectum; J. A. Ireland, M. D., Professor of Clinical Medicine; J. W. Benson, M. D., Professor of Clinical Surgery and Dean of the Faculty.

Demonstrators.—T. P. Satterwhite, M. D.; J. D. Burch, M. D.—W. H. Sutton, M. D., Prosector to the Chair of Clinical Surgery.

From the foregoing announcement it will be perceived that the late Faculty of the Kentucky School of Medicine have accepted Professorships in the Medical Department of the University of Louisville, and that the two Medical Schools of this City are now united. Embraced in this arrangement was the understanding that the graduates of the Kentucky School of Medicine shall be entitled to the *ad eundem* degree of the University, and shall receive the diploma thereof, free of charge to them, at any regular commencement.

This University is now in a prosperous condition. During the past session there has been a class of one hundred and sixty-four in attendance; the degree was conferred upon forty-five graduates; the ad eundem degree upon thirty-nine graduates of the Kentucky School of Medicine.

Army Medical Affairs.— (From the report of the Secretary of War.) Arrangements will soon be consummated by the Medical De-

partment for the permanent security of its valuable mortuary records, including 16,000 folio volumes of hospital registers, 47,000 burial records, 16,000 hospital, muster, and pay-rolls; alphabetical registers of the dead, containing 250,000 names of white and 20,000 of colored soldiers, and the pathological collection constituting the Army Medical Museum. During the year official evidence, obtainable from no other source, of cause of death, or of discharge for disability, has been furnished in 49,212 cases, and 210,027 discharges upon certificates of disability have been examined and classified. The total number of surgical cases classified and recorded is, of wounds, 133,952 and of operations, 28,438. The preparation for publication of the medical and surgical history of the war has been prosecuted with much energy, much of the manuscript and several of the illustrations for the first volume being completed. The army medical museum continues to increase in value and usefulness, and the greater security and additional accommodations of the building to which it will be shortly removed admit of the addition of a great number of interesting and instructive specimens not hitherto available for want of space. The number of Acting Assistant Surgeons in the employ of the government has been reduced from 1,997, on the 1st of July, 1865, to 264, on the 1st of July, 1866.—*New York Medical Journal.*

Dr. Samuel G. Armor, of Detroit, Mich., Professor of the Institutes of Medicine in the University of Michigan, has accepted the chair of Therapeutics, Materia Medica, and General Pathology in the Long Island College Hospital, Brooklyn, N. Y.

Cable-Prescriptions.—The *Lancet* says, amongst the uses to which the Atlantic cable has been put is one which would hardly be anticipated. A correspondent communicates to us a telegram which he received from a patient, who, being seized with a renewed attack of an illness from which he had suffered in this country, and for which he had been successfully treated, telegraphed to his old medical attendant for directions. These were returned by the same channel without delay. This prescription will rank among the curiosities of telegraphy.—*Medical and Surgical Reporter.*

Photographing upon Silk.—A process has been devised at Lyons, the great silk manufacturing locality of France, for photographing upon silk, linen, &c., so that persons, instead of making their initials upon the corner of a handkerchief, can have their photographs taken upon the fabric. In the silk shops various articles are exhibited, photographed with names, portraits, and fanciful devices. The pictures are not injured by washing and the process is said to be easily and rapidly effected.—*American Druggists' Circular.*

Dr. Arthur Hill Hassal has been granted a pension from the Civil List by her Majesty Queen Victoria, in recognition of his distinguished public and scientific services.

Dr. Henry Bryant, of Boston, has purchased and presented to the Society of Natural History, in that city, the La Fresnaye collection of birds, one of the largest and most valuable in Europe. It numbers nearly nine thousand specimens, stuffed and mounted in the best manner.

Imperial Honor to the Profession.—It has been remarked that nearly every Profession but that of Medicine was represented in the French Senate. This anomaly has struck the Emperor, it would appear, as the *Evénement* announces that his Majesty's Physician, Dr. Conneau, is to be promoted forthwith to a seat in the Luxembourg.

At a recent meeting of the Académie de Médecine, the celebrated pathologist, M. Lebert, of Breslau, was elected a corresponding member, by the votes of 51 out of 53 membes who were present. Drs. Bennett, of Edinburgh, and Magnus Huss, of Stockholm, were the other candidates.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

During the past year, two Medical Institutions have abolished the Thesis, as one of the requirements, preliminary to graduation. The Medical College of the State of South Carolina was the first to institute this dangerous innovation, but it is a pleasure to state that, though this fact has been well known to the many Medical Colleges of America, there is only one, the Nashville School of Medicine, which has followed such an example. The South Carolina Institution has wisely and prudently observed an entire reticence, in regard to the reasons which have induced such a step. As it is admissible to assume, that a course predicated on arguments not sufficiently forcible to warrant presentation, is essentially experimental, there is every reason for hoping that this College will abandon a policy which naturally provokes general condemnation, and that it will return to a system of administration, under which it deservedly attained a reputation equal to that of any Institution in the United States.

The Nashville School of Medicine has not been thus silent, but, on the contrary, has, in its last circular, given to the medical Public

grave and convincing reasons for the radical change instituted. In that somewhat memorable production, it is conclusively and most appositely stated, that "compositions are well enough for boarding-school misses to give their delighted mamas an airing amid the stars, on commencement day; as these essays are read aloud, but a thesis, after all the labour expended upon it, to be pigeon-holed and chronologized for post-millenial resurrection, is an absurdity that sensible men ought to discard at once. Hereafter no thesis will be required of the candidate for graduation, at this College," etc.—The dignity, courtesy and efficiency of this reasoning are irresistible, and will be prized and forcibly quoted by all who desire to conclusively establish the wisdom and expediency of the course adopted. What is safe for this College, however, may be ruinous to others, for it has an inherent vitality rarely attained by human Institutions. Is it not triumphantly stated, in the circular mentioned, that in its "darkest hour," when the artillery at a contiguous Fort, by repeated discharges, forcibly recalled Bulwer's description of the last days of Pompeii, that it had "no less than nine graduates?" That "a million of armed men passed and repassed, the College, without seriously interrupting the even tenor of its way," and that even when "converted into a Hospital, the lectures went on amid the dead and dying?" That when from its roof could could be heard military bands playing that air, so notoriously trying to Collegiate integrity, "Who's been here since I've been gone," "still the voice of its ministering priests *were* not hushed, but in humble cadence, mingled with the external uproarious discord?" Can anything endanger the vitality of such an Institution? Its Faculty justly states, that "if its vitalities could not be chilled into suspended animation, under such circumstances, its friends need scarcely fear anything that can happen to it hereafter." It is freely admitted, that such an Institution is an exception to all rules and requirements appertaining to other Colleges.

To render the abolition of the Thesis still more incumbent upon those having a due regard for brilliant precedents, it is classically stated elsewhere, by the representatives of this Institution, that Goldsmith "got pay" for disputing in regard to the thesis, and "disputed his way through Europe." Now the truth is that Gold-

smith never disputed in regard to a Medical Thesis in his life. In many foreign Universities there is, on certain days, a gratuity in money given, with a dinner and bed, to any adventitious disputant upon philosophical or mathematical theses or problems, provided these disputations are satisfactorily conducted. It may be readily imagined, that such opportunities were not neglected by the mendicant and gifted Poet, who notoriously resorted to all means for shelter and food, but that he ever "got pay" for disputing in regard to a medical thesis, when he almost failed in writing the one required, at the period of his graduation as a Physician, is certainly novel information to those familiar with his life.

The concluding reason given by the representatives of this Institution, is that time is not with them, "as Dr. Livingstone says, it is now with the natives of Africa," etc. What the parallel in the situation may be, is somewhat incomprehensible, but, as is apparent in other instances, (to quote the criticism of Nym to Bardolph,) "there's the humour of it."

It is thus seen what is the character of the reasons given for this radical innovation in regard to a necessary safeguard, observed by other Medical Colleges in America. One Institution making this change gives no reasons, and the other makes a burlesque of the requirement demanded by the most distinguished Colleges in this Country, and wherever Medicine is best cultivated and most respected.

Medical Colleges owe a solemn duty, if not an allegiance, to the Profession, of which their Faculties are in part representatives.—Physicians expect from them a protection from the many superficially instructed graduates, who are yearly endowed with the privileges and respectability of Practitioners of Medicine. Colleges constitute the doors of entrance into the ranks of the Profession, and Physicians have every right to demand and require that these doors be well guarded by those who are temporarily, the custodians of them.

The autocratic era of Medical Colleges has passed, for the period has passed, when there existed great disparity of attainment between medical teachers and the great body of the Profession—when this body was content to look to Colleges for guidance and

advice. Students are not now instructed for four and six years, as were Rush, Physick, Shippen, and their contemporaries, first in the elements, preparatory to a thorough initiation into the science, theories and true philosophy of medicine. The best of them can learn but little more than the elements, and the time or capacity of their teachers is (confessedly) rarely taxed beyond this. There is consequently less necessity for profound erudition in the teacher, and where no necessity exists, erudition naturally and evidently is often unsupplied. As a result, the old disparity between practitioners and teachers has passed away, and there is not, as formerly. the willing appeal to the Schools for guidance and advice. Physicians are equally competent to analyze and arrange the great questions of medical science and medical education. Schools are to reflect, and no longer to create or guide the sentiment of the Profession.

The time has then passed for great questions affecting the intelligence, safety and respectability of the Profession, to be dogmatically decided by Colleges, without challenge, or more than this, without requiring the presentation of full and satisfactory reasons. The Schools are responsible to the Profession for not degrading, by laxity of discipline and poverty of requirement, the proper standard of medical attainment. This responsibility should be sacred with all just and true teachers, and it is not to be prostituted, by the profit springing from hospitable leniency or imperilled by the abrogation of safeguards erected for the protection of the Practitioner and the Public. When this responsibility is neglected, it is proper to first invite attention to it; but when it is derided and evaded, it is necessary to have it terminated by the individual or organized withdrawal of that patronage which created it. There is an efficient and ample power with Preceptors, with State and District conventions, with societies and associations, for securing a full and satisfactory observance of this responsibility.

Abrogation of the requirements preliminary to graduation, whether fractionally or aggregately attempted, facilitates the acquirement of the diploma, and whatever this instrument may be worth, every improper facility extended for obtaining it, degrades, by so much, the Professional standard and position of the Physician. The

ground is then taken, that no College, if fairness to Physicians is to be estimated, has the right to abolish the requirement of the Thesis. If this requirement can be justly abandoned, then, by parity of reasoning and authority, one or more courses of lectures can be discontinued; dissection may no longer be even partially required; then the final examination may be abolished, and so the School, thus acting, could, through its charter, grant the seal of the diploma, without even the pretense of efficiency or competency on the part of the Student. If one College can justly do this, all can do likewise, and in the terrible competition now existing for patronage, such a result (if past experience is to be accepted as an indication) is by no means to be regarded as improbable. Under such circumstances, what would be the condition of the mass of Physicians, whose position and support would thus be effectually destroyed? It is not pretended, that such a course, in any College, would be unsuccessful, pecuniarily. On the contrary, if a Medical College were to remove every preliminary requirement to graduation, abbreviate its courses in number and duration, lessen its fees and (all difficulties removed from the path of the Student) grant the diploma, hospitably, to all who would pay for it, such an Institution would be abundantly supported by Preceptors and Students of the baser sort. It might possibly be outlawed by all true and worthy men, but human nature is such, that it would become rich and powerful, though destructive completely of even the present standard accorded to the Physician. Many Professional Esaus there are, who would sell not only their own birthright, but that of all belonging to the same family and name, for the base gratification of a degraded instinct. Colleges have no right to degrade the public standard of Physicians, by the abrogation of any one of those requirements, upon the due observance of which, the Profession relies for protection. All tendency on their part to gravitate to lower levels should be promptly checked and discountenanced.

If all means are lawful for physical protection, how necessary are proper means for social, moral and Professional protection? All Physicians have friends in Colleges, where perhaps the term is too short; or the period of pupilage, already insufficient, is abbreviated

by two lecture courses proper, in one year; or where examinations, intercurrent or final, are superficial and neglected; or where the thesis is abrogated; or where dissection is not faithfully required; or where the requirements for matriculation are never observed, etc. Physicians, if they will do their duty to themselves and to their Profession will condemn, and if necessary, expose these deficiencies and vices, and if not heeded, they will unite their voices and their influence, and their patronage, with that of their office students, for the correction of these great evils. If their friends, in such Colleges, become, by such a course, less their friends, it is great gain to lose them, for such men are unworthy of friendship, of confidence or of respect.

To act thus, may be unwelcome or painful, but it is a duty incumbent upon every Physician, who respects himself and his calling.— It is a duty which should be conscientiously and fully discharged. In doing this, it may be necessary for some to speak to the discredit of their State Colleges and those connected with them, but while this may make the discharge of the duty more unpleasant, it renders it still more obligatory. Patriotism and State pride, are elements in human character, which can never be sufficiently exalted or eulogised, but it is erroneous to claim that they require the citizen or student to sacrifice his time and his means, and, more than all, his opportunities, for the support of inferior Institutions. To give one's purse, blood and life for his Country, is just and proper; to cheerfully and unceasingly give his time, labour, (mental and physical,) and his means, for her development and support, is noble, right and admirable; but no code of justice or of patriotism or of duty requires one to sacrifice his priceless educational opportunities for the support of inferior Institutions, however contiguous. Such a course bankrupts, educationally, the pupil; it destroys that incentive to progress, energy and merit, which should be the only basis, upon which any Institution rests its claims for support; but above all, it entails injury and not good upon the State, by returning to her population the inefficient, the superficial and half-educated.

If a State College is equal to others, in the advantages necessary for the attainment of a thorough education, *support it munificently.* If it is not equal, true patriotism requires that the fact should

be openly declared, that the evil may be corrected; also, that after obtaining abroad all which could not be obtained at home, the citizen should return to aid, with his education and every available means, in rectifying the great evil which compelled him to, justly, go elsewhere for his education. Really praiseworthy Institutions, in any State, may not be immediately supported; they are usually; always, eventually.

The thesis is not required at the University of Virginia. It is just, however, to state, that the repeated examinations and the system of written replies to questions submitted, form something of an equivalent. The course of instruction pursued at this Institution would unquestionably be regarded with increased confidence and respect, if the thesis were added to the present list of safeguards and requirements.

It is unnecessary to give in detail the reasons for requiring a thesis. The fact that fully ninety-five per cent. of the best medical Institutions of the civilized world exact it, is sufficient. It is, to say the least, far more probable that ninety-five should be right and five wrong, than vice versa. Every ordinary examining Board usually is required to exact it. All familiar with the thesis presented by the graduate and by those coming before examining Boards, need no argument in favour of its requirement. The writers of very many of these papers could not retain the position of corresponding-clerk in an ordinary commercial house. Such men inflict incalculable injury upon the medical Public, and should be excluded from it. What is thought of the Profession, by very many recognized judges, when they observe that those who have graduated and are accepted as Practitioners, cannot acquit themselves with the commonest respectability? Many who endure successfully the verbal ordeal, are unable to avoid the exposure of ignorance with the pen.

To contend that the writing of a thesis consumes too much of the time of the student, is to admit that he is too ignorant to graduate honestly; for what can be the extent of medical acquirement on the part of a student, if he is unable, in three or four evenings, at most, to write ten or twelve pages on a subject which he prefers and best understands?

It is not assumed that a student, if passing all of his examinations handsomely or creditably, should be rejected, because he is unable to speak or write correctly. Such cases are very rare indeed; so rare that they attract attention and are easily to be made the exceptions. This anomaly occurred with Dupuytren and Velpeau and others, but it can be assumed, from experience, with absolute safety, that when it does occur, it will be with those who, like Velpeau and Dupuytren, would soon write as creditably, as they work.

After all that has been written against the requirement of the thesis, it is exacted by nearly every Institution of position and reputation in the world; arguments for it are overwhelming; those against it have been weak, futile and unsuccessful.

The half that is appropriate in regard to this subject has not been said, but the limits proper for such a paper have been already exceeded. In conclusion, it is emphatically repeated, that this subject, like that appertaining to any of the requirements instituted for the protection of the Profession, is of vital interest to all.—Every Physician exerts influence in the cause of medical education. Let him wield this conscientiously, openly, and unceasingly, for elevating the standard of the Profession, and for discountenancing all acts which (however honestly instituted by honourable Institutions) serve only to depress and degrade it.

The Nashville Journal of Medicine and Surgery, after amusing and impotent efforts to defend or excuse that memorable Circular, issued by the Medical Department of the University of Nashville, (and republished in the number of the Richmond Medical Journal for November, 1866,) has adopted a course of action, not unusual, with the vulgar, under such circumstances—a resort to clownish ribaldry, libellous defamation and absolute falsehood.—There are four Editors—"*palmam qui meruit ferat.*"

Scurrility can never check just criticism; a Journal capable of such a course is unworthy of recognition, and is dropped, without loss or regret, from the list of Exchanges.

The Southern Journal of the Medical Sciences.—This Journal was first published as a Quarterly, at eight dollars per year.—Increased facilities for the support and preparation of the Work enable its Editors and Proprietors to commence their next volume in May, 1867, at $6.00 per year to single subscribers, and $5.00 per copy to clubs of five or more.

To all subscribers of the *Richmond Medical Journal*, (ordering the Quarterly through this office,) it will be furnished at $5.00 per year. The course and success of this New Orleans Journal have been watched with interest and care. The work is conducted with great ability and with the best judgment, and may be justly regarded as fully equal to any Quarterly which has been published in this Country. Its Editors are well known, and are entitled to the entire confidence and support of the Profession. Will these not be promptly and generally given?

Officers of the Virginia Dental Society.—Jno. G. Wayt, President; R. N. Hudson, Vice President; W. Leigh Burton, Secretary; S. Edward Chase, Treasurer.

Errata.—On pages 153 and 154, vol. iii, No. 2, for "sulphurus acid gas" read "sulphurous acid gas."

NOTICES.

Medical Convention.—At the meeting of the American Medical Association, held in the City of Baltimore, May 3d, 1866, the following resolution was adopted with much unanimity, and the undersigned appointed a Committee to aid in carrying it into practical effect:

Resolved, That this Association earnestly requests the Medical Colleges of the country to hold a Convention for the prrpose of thoroughly revising the present system of Medical College instruction, and that a Committee be appointed to aid in carrying the resolutions into effect.

In fulfilling the duties enjoined on them, the undersigned respectfully and earnestly invite the Trustees and Faculty of each of the Medical Colleges in the United States to send representatives to a Convention to be held in the City of Cincinnati, Ohio, on Friday preceding the next Annual Meeting of the American Medical Association; namely, on the 3d day of May, 1867. We would also respectfully suggest that all delegates to such Convention be prepared to consider fully and act upon the following subjects;

First. The adoption of a more uniform and just rate of Lecture Fees by all the Colleges in this Country.

Second. The propriety of increasing the length of the Annual Lecture Term, and the number of Professorships.

Third. The adoption of measures for securing more thorough attention on the part of students, to the more elementary branches of medical science, and a more progressive order of medical studies.

Fourth. The practicability of requiring three Annual Courses of Lectures, instead of two, as a condition of graduation; and of making Hospital Clinical Instruction a necessary part of the Third Course.

Fifth. The practicability of establishing and exacting some appropriate standard of preliminary education for young men proposing to enter upon the study of medicine.

Feeling confident that a free interchange of views upon these, and such other topics as the Convention might deem proper, would result in the adoption of measures of great importance to the interests, honour, and usefulness of our Profession, we again cordially and earnestly invite your coöperation.

N. S. DAVIS,
S. D. GROSS,
WORTHINGTON HOOKER,
M. B. WRIGHT,
GEO. C. SHATTUCK,
} Committee.

This notice is particularly commended to the attention of the Profession and the representatives of all Medical Institutions. The importance of such a movement, and the necessity for its early institution are freely admitted, by all who have the welfare of the Science at heart; by all who are desirous of adopting such measures, as will speedily and efficiently check that tendency to innovation and retrogression so dangerous and so manifestly progressive. Such a result can only be attained, in this Country, by concert of action.

If the standard for graduation be elevated by the means proposed, in this notice, students will of course go, and be properly advised to go, where this standard is highest, and where the fact of graduation will be most creditable and subsequently beneficial. The disposition and intention on the part of Preceptors to support with their students, those Medical Colleges whose standard is highest, is rapidly increasing. All Medical Institutions will, therefore, consult both their interest and their safety in coöperating in this movement directly, or in speedily adopting the highest standard established..

☞ The Eighteenth Annual Meeting of the American Medical Association will be held in Cincinnati, on Tuesday, May 7th, 1867, at 11 o'clock A. M. The following Committees are expected to report: On Quarantine, Dr. Wilson Jewell, Pa., Chairman; On Ligature of

Subclavian Artery, Dr. Willard Parker, N. Y., Chairman; On Progress of Medical Science, Dr. Jerome C. Smith, N. Y., Chairman; On the Comparative Value of Life in City and Country, Dr. Edward Jarvis, Mass., Chairman; On Drainage and Sewerage of Cities, &c., Dr. Wilson Jewell, Pa., Chairman; On the Use of Plaster of Paris in Surgery, Dr. Jas. L. Little, N. Y., Chairman; On Prize Essays, Dr. F. Donaldson, Md., Chairman; On Medical Education, Dr. S. D. Gross, Pa., Chairman, On Medical Literature, Dr. A. C. Post, N. Y., Chairman; On Instruction in Medical Colleges, Dr. Nathan S. Davis, Ill., Chairman; On Rank of Medical Men in the Army, Dr. D. H. Storer, Mass., Chairman; On Rank of Medical Men in the Navy, Dr. W. M. Wood, U. S. N., Chairman; On Insanity, Dr. Isaac Ray, R. I., Chairman; On American Medical Necrology, Dr. C. C. Cox, Md., Chairman; On the Causes of Epidemics, Dr. Thomas Antisell, D. C., Chairman; On Compulsory Vaccination, Dr. A. N. Bell, N. Y., Chairman; On Leakage of Gas-Pipes, Dr. J. C. Draper, N. Y., Chairman; On Alcohol and its Relations to Man, Dr. J. R. W. Dunbar, Md., Chairman; On the Various Surgical Operations for the Relief of Defective Vision, Dr. M. A. Pallen, Mo., Chairman; On Local Anæsthesia, Dr. E. Krackowitzer, N. Y., Chairman; On the Influence upon Vision of the Abnormal Conditions of the Muscular Apparatus of the Eye, Dr. H. D. Noyes, N. Y., Chairman; On the Comparative Merits of the Different Operations for the Extraction of Vesical Calculi, Dr. B. J. Raphael, N. Y., Chairman; On the Therapeutics of Inhalation, Dr. J. Solis Cohen, Pa., Chairman; On the Deleterious Articles used in Dentistry, Dr. Augustus Mason, Mass., Chairman; On Medical Ethics, Dr. Worthington Hooker, Conn., Chairman; On the Climatology and Epidemics of Maine, Dr. J. C. Weston—of New Hampshire, Dr. P. A. Stackpole—Vermont, Dr. Henry Janes—Massachusettes, Dr. Alfred C. Garratt—Rhode Island, Dr. C. W. Parsons—Connecticut, Dr. B. H. Catlin—New York, Dr. E. M. Chapman—New Jersey, Dr. Ezra M. Hunt—Pennsylvania, Dr. D. F. Condie—Delaware, Dr. — Wood—Maryland, Dr. O. S. Mahon—Georgia, Dr. Juriah Harris—Missouri, Dr. Geo. Engelman—Alabama, Dr. R. Miller—Texas, Dr. Greenville Dowell—Illinois, Dr. R. C. Hamil—Indiana, Dr. J. F. Hibberd—District of Columbia, Dr. T. Antisell—Iowa, Dr. J. W. H. Baker—Michigan, Dr. Abm. Sager—Ohio, Dr. J. W. Russell.

Secretaries of all medical organizations are requested to forward lists of their Delegates as soon as elected, to the Permanent Secretary.

W. B. Atkinson, M. D., Permanent Secretary,
215 Spruce Street, Philadelphia, Pa.

☞ The Editors of this Journal wish it understood, that they do not desire the subscription of any one who is unwilling to observe honourably and in good faith, the "terms" to which he substribes. If any one is unable to pay five dollars within the period specified, or is unwilling to pay subsequently the additional amount necessary for his accommodation, it is requested that he will abstain from subscribing.

☞ Short Articles.—It is requested, that articles contributed for this Work, should be brief and practical. With few exceptions, long communications are distasteful to readers and are generally neglected; it is difficult to make room for them. Papers of merit are retained for many months, when, if the valuable truths contained were briefly presented, they would be promptly published. It is the desire of the Editors of this Journal to increase, relatively, the Eclectic Department, and, to effect this, original papers of limited extent are preferable.

☞ All Journals which have given insertion to the original Prospectus of the *Richmond Medical Journal*, and which are generously continuing such notice, will be kind enough to change the text, so as to make it read—"This Journal is published, as a monthly of ninety-six pages;" not eighty as formerly. This increase was made many months since, and the Journal will be further enlarged in due course of time.

Subscribers are reminded, that, after the termination of March, six dollars will, in accordance with the published terms, be expected, as the amount due for subscription to the Journal for 1867.

Seventy-five cents will be given for every copy of this Journal for October, 1866.

☞ Notices to Subscribers, Advertisers, Contributors and Correspondents.

Those once ordering the Journal will each year be considered as subscribers, and the terms of this Journal adopted in regard to them. An order for discontinuing the Journal should be sent at least two months in advance. As is usual, no subscription or advertisement will be discontinued until arrears are paid.

The Publishers assume the risks in regard to all amounts sent by mail, if the packages or letters are registered. When practicable, all sums to be so sent should be deposited with the Postmaster, and the "money order," obtained from him, transmitted.

Receipts for all amounts transmitted, will be sent in the Journal, for the succeeding month.

It is desired to obtain for this Journal one Agent in every City and Town.

To each Agent there will be allowed twenty per cent. of the amount due for each subscription or advertisement.

For the accommodation of the Profession, there will be furnished, with this Journal, one or more American Journals, including the reprint of the London Lancet, at ten per cent. less than the aggregate cost of the additional Journals desired.

All communications sent by mail should be directed to Dr. E. S. Gaillard, Locked-Box 32, Richmond, Va. Those to be delivered personally, should be left at his office, 404 Franklin Street, between Fourth and Fifth Streets.

European packages, sent through Trubner & Co., 60 Paternoster Row, London, or J. B. Bailliere et Fils, Rue Hauterfeuille, Paris, will be safely forwarded.

It is expected that all expenses will be paid on packages, foreign and domestic, sent to this Journal.

All contributions or papers, intended for insertion in the next Number of the Journal, should be received by the middle of the month preceding.

Contributions for publication must bear the signature of the writer, and must be communicated to this Journal exclusively.

Original articles should be written on one side only of each sheet, and the manuscript should be, by the sign (¶), divided into paragraphs.

Contributors can have forwarded to them, at a small expense, one hundred or more copies of their articles, in pamphlet form, provided the order to this effect be received before the period of publication.

The Journal will be sent a second time, when not received one month after the usual period of its appearance.

Rejected manuscript will be returned, if desired, by mail or Express, at the expense of the writer.

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☞ This Journal is published as a Monthly octavo of ninety-six pages. It is now the largest Medical Monthly issued in America.

The Editors offer to pay, at the HIGHEST JOURNAL RATES, for ARTICLES, ESSAYS, CORRESPONDENCE and REVIEWS OF RECENT WORKS.

The terms of this Journal have been changed; see notice on the cover.

TRIBUTE OF RESPECT.

At a called meeting of the Medical Association of Lynchburg held in the Council Chamber, Monday Feb. 25th, Dr. Payne, President, in the Chair—

The following preamble and resolutions were offered by Dr. Blackford, and unanimously adopted:

Whereas, God, in his all-wise Providence, has suddenly removed our friend and Professional brother, Dr W. H. HOLCOMBE, for many years an esteemed citizen and eminent physician of Lynchburg: Therefore,

Resolved, That we mourn the loss of one whose gifts and acquirements fitted him to discharge with honor and success the duties of a Christian physician; one whose genial disposition and ever ready interest in the welfare of others endeared him to a large circle of friends.

Resolved, That as a Society, we desire to express our heartfelt sympathy to the relatives of the deceased, and to emulate the virtues which characterized his long and useful life.

Resolved, That the members of this Association attend in a body the funeral of the deceased; and a copy of these resolutions be transmitted to his family; also to the Lynchburg papers and RICHMOND MEDICAL JOURNAL for publication.

BOOKS AND JOURNALS RECEIVED.

Methomania—A Treatise on Alcoholic Poisoning. By Albert Day, M. D. Boston. James Campbell. 1867. From the Publishers.

Injuries of the Spine. By John Ashhurst, A. M., M. D., Fellow of the College of Physicians, etc. Philadelphia. J. B. Lippincott & Co. 1867. From the Publishers.

Angular Curvature of the Spine. By Benjamin Lee, M. D. Philadelphia. J. B. Lippincott & Co. 1867. From the Publishers.

Report of the Committee on Spotted Fever. 1867. By James A. Levick, M. D. Philadelphia.

Œsophagotomy, for the Removal of Foreign Bodies. By David W. Cheever, M. D. Boston. 1867.

Constitution and By-Laws of the Richmond Academy of Medicine. Richmond, Va. 1767.

Constitution and By-Laws of the Virginia Dental Society. 1867. Richmond, Va.

Practice of Medicine. By Austin Flint, M. D. Philadelphia. Henry C. Lea. 1867. From the Publishers.

Transactions of the American Medical Association. Vol. 16. 1865.

Transactions of the American Medical Association. Vol. 17. 1866.

The Indigestions, or Diseases of the Digestive Organs, Functionally Treated. By Thos. King Chambers, M. D., Honorary Physician to H. R. H. the Prince of Wales, etc., etc. Henry C. Lea. Philadelphia. 1867. From the Publishers.

The following Exchanges are regularly received: The Atlanta Medical and Surgical Journal: Boston Medical and Surgical Journal; Braithwaite's Retrospect; Buffalo Medical and Surgical Journal; Chicago Medical Journal; Chicago Medical Examiner; Cincinnati Lancet and Observer; Druggist's Circular and Chemical Gazette; Galveston Medical Journal; Journal of Applied Chemistry; London Lancet—Original and Reprint; New York Medical Record; The Planter; Richmond Eclectic; New Orleans Medical Journal; New York Medical Journal; Pacific Medical and Surgical Journal; St. Louis Medical and Surgical Journal; Savannah Journal of Medicine and Surgery; Southern Journal of the Medical Sciences; Southern Medical and Surgical Journal; The American Journal of Pharmacy; The American Journal of the Medical Sciences; Dental Cosmos; The Detroit Review; Philadelphia Reporter; The St. Louis Medical Reporter; Le Mouvement Medicale, Paris; Journal de Medecine Mentale, Paris; Medical Press and Circular, Dublin; Revue de Therapeutique Medico Chirurgicale, Paris; Revue Medicale, Paris; Cincinnati Journal of Medicine; Canada Medical Journal; Journal of Materia Medica; The Ophthalmic Review, London; Dublin Quarterly Journal of Medical Science; Medical Mirror, London; Dellow's Review; Littell's Living Age; The Farmer; London Punch.

AGENTS.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

Art. I.—Remarks on the Treatment of Acute Pneumonia.

By J. L. Cabell, M. D., Professor Physiology and Surgery, University Va.

Case.—Pneumonia of left side complicated, during the stage of resolution, with remittent fever of malarial origin. Recovery.

R. C. W., æt. 19, student, having very recently recovered from a severe attack of bilious remittent fever, which was contracted in a malarious region in the Eastern part of North Carolina, and which left him weak and anæmic, spent several hours of the evening of October 26th in a densely crowded room which was overheated. Leaving this room in a state of fatigue he was exposed for fifteen or twenty minutes in an open carriage to a cold North wind. No ill effects were experienced that night, nor on the following day, until about 7 o'clock, P. M., when he had a severe chill with violent pain below the left shoulder. An anodyne was administered and counter-irritation, by means of turpentine stupes, applied to the chest.

Oct. 28th.—Patient sufficiently relieved to enable him to sleep a few hours in the early part of last night, after which he was, by the report of the nurse, very restless. Had a spontaneous movement from the bowels this morning.

Pain in the chest, though very much lessened, is still a source of distress. Pulse 110; respiration 30 or more; but little cough and no expectoration; respiratory murmur obscure in left lung posteriorly above and postero-laterally below. On forced inspiration, fine crepitation is occasionally heard; slight dullness on percussion within same limits nearly; ordered five drops of Norwood's tincture of veratrum viride, with an equal quantity of tincture of opium and half a drachm of sweet spirits of nitre, to be given every three hours; counter-irritation with warm spirits of turpentine, to be repeated.

29th.—Spent a restless night, but slept a little towards morning; pulse reduced to 92; bronchial respiration and bronchophony; increased dullness on percussion; absence of chlorides from the urine; treatment continued. Evening—Pulse reduced to 75 and respiration to 20; tincture of veratrum to be continued in diminished doses, namely three drops every six hours. If necessary to produce sleep, thirty drops of tincture of opium to be given.

30th.—A good night's rest obtained under the influence of the dose of laudanum; pulse 84; respiration 22; scanty pneumonic sputa; physical signs of percussion and auscultation unchanged; tincture of veratrum to be continued, in doses of four drops, every three hours; beef tea. Evening—Pulse 70; other symptoms as in the morning; dose of tincture of veratrum reduced to three drops every six hours.

31st.—Spent a comfortable night, after taking thirty drops of laudanum, having been previously wakeful and restless; freer expectoration; a little sub-crepitant râle heard in a portion of the affected lung. The addition of a solution of nitrate of silver to the patient's urine, acidulated with nitric acid, causes a slight whitish turbidity, showing a trace of chlorides heretofore absent. Pulse 78; continue treatment.

Nov. 1st.—Improvement progressive; bowels moved by an enema; treatment continued. Evening---Patient very restless; there is some delirium; face flushed; pulse 116; respiration 34; increased cough. *Physical signs indicate progressive resolution throughout the affected portion of the lung, and there is no extension of the original limits of the disease. Chlorides of the urine considerably more*

abundant. Tincture of veratrum, five drops; and liquor ammoniæ acetatis, half an ounce: to be given every three hours, until reduction of the fever, or copious diaphoresis.

Nov. 2d.—Nurse reports that the fever rose during the night to a higher pitch than is indicated by the record made last evening, but began to abate soon after midnight, with free perspiration, after which the patient enjoyed good rest; pulse 78; respiration 18; epistaxis; chlorides in increased quantity; patient complains of weakness; milk toddy allowed in addition to beef tea; medicines continued. Evening—Rise of fever similar to that of yesterday; ordered the same remedies, with the addition of ten grains sulphate of quinia, to be administered as soon as perspiration is established.

Nov. 3rd.—Fever reduced. The quinine was given early this morning. Auscultation and percussion of the chest, and the condition of the urine as to quantity of chlorides, denote progressive resolution. Quinine to be repeated at midday. Evening—Patient fully under the influence of the quinine; no rise of fever; pulse 70; respiration 18.

Nov. 4th.—Patient passed a good night, and is now entirely free of fever; has appetite, which he is now permitted to indulge. Quinine given early this morning, and ordered to be repeated at noon. No further treatment for pneumonia.

Nov. 6th.—Quinine used in anti-periodic doses until to-day. All treatment suspended from this date.

Commentary.—This case presents a feature of interest in the occurrence of febrile paroxysms of a remittent type, which appeared as a complication in the latter stages of the pulmonary affection. It is well known that numerous medical observers of the highest respectability, both in this country and in Europe, have maintained that pneumonia is nothing more than a peculiar form of remittent or intermittent fever, in which the lungs, from sudden transitions of temperature, are made to bear the burden of local disease. Thus, according to this doctrine, the disease in question is simply the pneumonic form of periodic fever.

These views have, I think, been decisively refuted by Dr. La Roche, of Philadelphia, in his elaborate work on "Pneumonia and its supposed connection, pathological and etiological, with Au-

tumnal Fevers;" but as they still prevail in certain portions of the South, and determine, to a large extent, the course of treatment pursued by those who uphold them, it is not out of place to present additional evidence of their fallacy.

The special point of interest in this case is the fact of the supervention of paroxysms of malarial fever, of such severity as greatly to alarm an intelligent and experienced Professional nurse, without, in the slightest degree, affecting the favourable progress of a pneumonic inflammation, then undergoing resolution. The evidence thus furnished of the distinctness of the two pathological conditions was very striking. It is not, I think, difficult to understand the apparent benefit which results from the use of quinine in the treatment of certain cases of pneumonia in malarious regions in certain seasons. In point of fact, the cases consist generally of attacks of periodic fever, with the pneumonia as a complication; and, as the latter disease has a natural tendency to resolution, which is facilitated by supporting diet, the quinine, in curing the fever, gets the credit of curing the pneumonic lesion as well.

The long disputed question as to the best general method of treating acute pneumonia, so earnestly investigated and discussed by many of the leading minds in the Medical Profession during the last fifteen or twenty years, can scarcely yet be held to be definitely settled as to all the points involved.

To Dr. J. H. Bennett, Professor of the Institutes of Medicine, and Senior Professor of Clinical Medicine in the University of Edinburgh, is undoubtedly due the credit of having taken the lead in substituting for the severely anti-phlogistic system of treating pneumonia which had previously prevailed, the supporting plan now more generally adopted, and in demonstrating the superior efficacy of the latter mode of treatment by a strict numerical analysis of the results of the two methods. I am sorry to know that many of the readers of the *Richmond Medical Journal* have not seen Dr. Bennett's "Clinical Lectures," in which the statistics of this subject are given at great length. I shall accordingly make no apology for reproducing them in a condensed form.

There were treated in the Royal Infirmary of Edinburgh, from July 1, 1839, to October 1, 1849, (after which latter date Dr. Ben-

nett took charge of the Institution,) 648 cases of pneumonia, with a mortality of 222, or one in two and nine-tenths.

The total number of cases recorded by Louis, in his work entitled "Recherches sur les effets de la Saignée," was 107, with a mortality of thirty-two, or one in three and one-third. In seventy-eight of these cases which occurred at the Hospital La Charité, bleeding was performed from the first to the ninth day, and the deaths were twenty-eight, or one in two and four-fifths. Of the remaining twenty-nine cases, which occured at La Pitié, the bleeding was performed earlier—that is, during the first four days—and of these only four died, that is, one in seven and one-fourth. All the patients had enjoyed excellent health when they were attacked.

Rasori treated 648 cases by large doses of tartar emetic, with a mortality of 143, or one in four and a half, which he regarded as decidedly more favourable than the results of the treatment by blood-letting, as generally practised in his day.

Grisolle gives the results of 232 cases treated by him, or under his observation with *moderate* blood-letting. One group of cases, fifty in number, were bled only in the first stage of the disease. Of these only five died, or one in ten. Those cases that died were bled most largely, each losing about four lbs. four oz. of blood in successive bleedings. Of 182 cases that were bled in the second stage thirty-two died, or one in five and a half. Of the whole 232, the mortality was one in six and a third.

Dr. Dietl treated 380 cases of primary pneumonia in the Charity Hospital of Vienna, eighty-five by venesection, 106 by large doses of tartar emetic, and 189 by diet only, with the following result:

	Venesection.	*Tartar Emetic.*	*Diet.*
Cured	68	84	175
Died	17	22	14
	85	105	198
Deaths	1 in 5	1 in 4 4-5	1 in 13 ½

It was further observed that of the cases treated by blood-letting, seven of the fatal cases were uncomplicated, whilst of the cases

treated by diet, not one of the fatal cases was an uncomplicated one.

Dr Bennett, at the date of the publication of the third edition of his "Clinical Lectures," in April, 1859, had treated seventy-eight cases, with a mortality of three, or one in twenty-six, in the same Infirmary in which immediately previous to his term of service, there had been for a period of ten years, namely from July, 1839, to October, 1849, a mortality of one in two and nine-tenths.—Moreover all the fatal cases were very badly complicated, one with uncontrollable diarrhœa, the autopsy revealing extensive follicular disease of the mucous membrane of the duodenum, jejunum and chiefly the ileum. Another was complicated with persistent albuminuria and anasarca, but no post-mortem examination could be obtained. The third case, that of a drunkard, was complicated with delirium tremens and latterly violent convulsions. On dissection, in addition to pneumonia, there was found universal cerebral meningitis with exudation at the base, as well as over both hemispheres. Of the uncomplicated cases, sixty-five in number, not one died, though many were very severe, involving the whole of the lung, and in thirteen cases, portions of both lungs. In a more recent (fourth) edition of the Clinical Lectures, which I have not seen, Dr. Bennett, as I learn by a note in the recent edition (1866) of Wood's Practice, reports fifty-one additional cases with one death, making in all 129 cases and four deaths, that is a mortality of one in thirty-two and a fourth, or excluding the fatal cases as being all complicated, (Prof. Wood makes this statement but gives no particulars respecting the last fatal case,) we have the remarkable result of 125 cases of uncomplicated pneumonia treated, and all brought to a happy termination.

The method of treatment which produced this marvellous result consisted, as we are informed by Dr. Bennett, "in furthering the natural progress of the disease." He systematically abstained from all attempts to cut the disease short, or to weaken the pulse or vital powers, and on the contrary aimed to further the necessary changes which the exudation must undergo in order to be fully excreted from the economy. "To this end," he states, "I content myself during the period of febrile excitement, with giving salines in small

doses with a view of diminishing the viscosity of the blood. As soon as the pulse becomes soft, I order good beef tea, and nutrients, and, if there be weakness, from four to eight ounces of wine daily. As the period of crisis approaches I give a diuretic, generally consisting of a half drachm of nitric ether, sometimes combined with ten minims of colchicum wine, three times daily, to favour excretion of urates. But if crisis occurs by sweat or stool, I take care not to check it in any way."

The treatment recommended by Dr. Todd, Physician to King's College Hospital, though based upon peculiar views as to the pathology of the disease, which he conceived to depend upon the retention in the system of a *materies morbi* that should be eliminated, was yet substantially the same with that pursued by Dr. Bennett. This eliminative treatment consisted "in promoting the secretions of the skin and kidneys; at the same time paying due attention to the condition of the digestive organs and bowels." The aim was to induce free sweating with a moderate action on the bowels, while gentle counter-irritation was applied to the chest. Finally the system was supported by the liberal, but well regulated administration of good nutritious food. If blood was taken, it was only with the view of relieving pain, and for this purpose Dr. Todd preferred the application of a few leeches over the painful spot, but he considered it sometimes expedient to take a little blood from the arm when the dyspnœa was extreme. "To bleed or not to bleed," said this gentleman in one of his clinical lectures at King's College Hospital, "is often a question in pneumonia, and one which I earnestly recommend you, as a general rule, to decide in the negative rather than in the affirmative."* He treated twenty-five cases from 1843 to 1847 by the reducing system, namely, bleeding, the application of blisters, the exhibition of tartar emetic, and the more or less free use of mercury, with a mortality of one in six. From 1847 to 1850, he treated fifty-three cases by the eliminative and supporting plan with a reduced mortality of one in nine—a decided gain as compared with the result of the reducing treatment practiced in the same hospital, and it is to be presumed on a precisely similar class of

* R. W. Todd, M. D,, F. R. S., Clinical Lecturer on certain acute Diseases. London, 1866.

patients, though it falls very far short of the success achieved by Dr. Bennett.

Professor Wood, of Philadelphia, adverting to this unprecedented success of Dr. Bennett's treatment of pneumonia, attributes it to the general existing asthenia among the poorest people in Edinburgh. This argument is made, I think, to prove too much. It may indeed satisfactorily account for intolerance of blood-letting and other reducing treatment; but used to explain the wonderful success of Dr. Bennett, it implies that pneumonia among the poor and wretched is a less dangerous disease than when it exists among the more favoured classes of society, which is not, I believe, supported by experience, and, in fact, seems to be a sort of *reductio ad absurdum*. Moreover, Professor Wood, in asserting that asthenic pneumonia in Edinburgh is an eminently mild form of the disease, disregards the positive statements of Dr. Bennett, already cited, to the effect that many of his cases "were very severe, involving the whole of one lung, and, in thirteen cases, portions of both lungs."

Like Dr. Todd, Dr. Bennett does not absolutely reject blood-letting in all cases. He denies that it exerts a curative influence over the progress of the pneumonic inflammation, but admits its value as a palliative for the relief of pain and dyspnœa in certain cases.

While the superior efficacy of a general plan of treatment which is mainly restorative, as compared with the reducing system formerly practiced, has been thus clearly substantiated, there are some subordinate questions which are not yet definitely settled, but require further careful observation.

One of these questions has reference to the utility of moderate bleeding at the outset of sthenic cases, not merely to palliate distressing symptoms—for in this indication its utility is conceded even by Dr. Bennett—but with a view to modify the subsequent course of the disease.

An interesting paper published in the *Edinburgh Medical Journal*, for July, 1860, by Dr. Alexander Smith, presents a highly favourable view of the value of blood-letting "at the outset of pneumonia in its sthenic form." The statements of the writer are deduced from his experience of 108 cases in soldiers treated at va-

rious stations in Canada. There were three deaths, giving a mortality of one in thirty-six. It is to be borne in mind, however, that the subjects were all young, vigourous men, previously healthy; that the cases were taken in hand at the very commencement of the attack, and that the bleeding was practiced only at this early period—so early, indeed, that a well-founded doubt may be entertained as to the certainty of the diagnosis in some of the cases. For though Dr. Smith, in stating that he had never succeeded by blood-letting in cutting short the disease, or in arresting it in the stage of engorgement—which stage was "indicated by obscurity of the respiratory sounds," at the seat of engorgement, or by "exaggerated respiratory sound" in its immediate vicinity—seems to consider his diagnosis fully verified by the fact that in every case so treated "small crepitation seemed to undergo an earlier development," he yet adds that "in no case so treated did red hepatization take place." Now, this experience is so peculiar that it is impossible to avoid the suspicion that in some of the cases a sub-crepitant râle, betokening a bronchitis of the smaller tubes, may have been mistaken for small crepitation. The author himself refers to bronchitis as a complication in some of the cases, for he states that "neither were the bronchitic sonorous râles, occasionally audible along with large and small cupitation near the middle of the lungs, in the course of some of the cases, confounded with the blowing sound of bronchial respiration heard when true hepatization was present." He concludes by wishing "it to be distinctly understood that, whilst advocating the employment of blood-letting at the outset of sthenic cases of pneumonia, such as are seen in young and previously healthy soldiers; and whilst maintaining, also, from actual observation, that the good results which follow such a mode of treatment surpass, in a marked degree, those obtained from any other combination of remedies, I do not in any way call in question the value of that mode of treatment termed "restorative," as applied to a particular class of cases, and which have been employed with so much success in the treatment of pneumonia as seen in civil hospitals in Britain."

A second subordinate question of great importance, has reference to the value of mercurials, so largely used in this and other South-

ern States, with the view of hastening the resolution of the hepatized lung by promoting the absorption of the plastic exudation. My own conviction is, that such a use of this drug is mischievous, and that the injurious effects which have been traced to its abuse have brought into general discredit with a large class of eminent practitioners a therapeutical agent which, for some other highly important purposes, is really invaluable. This, however, is merely a personal opinion, and unsupported by statistical facts, has no weight as an argument. Further careful observations are needed to settle definitely the *questio vexata* as to the influence of mercurials on inflammatory exudations in general, and on the course of pneumonic solidifications in particular. I venture to throw out the suggestion that the Richmond Academy of Medicine, and other Medical Societies of the South, would do well to set on foot a proper plan for the collection by their members of reliable data for the solution of these and other important questions respecting the treatment of pneumonia. The *opinions* of members are of no avail. On every such question the most opposite opinions are held with equal tenacity, and urged with equal emphasis, by equally respectable Practitioners. Let all agree to keep a faithful record of the phenomena and treatment of *all* their cases, whatever be their termination, and to place these records among the archives of the Society, until a sufficient number shall have been collected to furnish grounds for safe generalizations respecting the value of different remedial agents in the treatment of acute pneumonia.

It will have been observed that a pretty liberal use was made of Norwood's tincture of veratrum viride in the treatment of the case reported above. My experience with this agent is not sufficient to warrant a very decided expression of opinion as to its value. I derived the most favourable impressions of its efficacy in reducing the frequency of the pulse without unduly depressing its force, and in coincidentally lessening the number of the respirations, while a free action of the skin and kidneys was induced, from a very limited experience in private practice before the war. Its employment in hospital cases, during the early stages of the war, proved so unsatisfactory that its use was wholly abandoned. In private practice I have never known it to produce depression until the point of satu-

ration had been obtained, as indicated by alarming nausea and vomiting, which was generally, if not always, preceded for some hours by the phenomena of an intermittent pulse. This indication usually enabled me to anticipate and prevent the occurrence of nausea, by suspending the remedy, and administering brandy in moderate doses.

Art. II.—Why do not Gun-Shot Wounds Heal by Quick Union. By Julian J. Chisolm, M. D., Prof. of Surgery, Medical College State of South Carolina.

I had observed that when a ball struck the outer and upper portion of the thigh, so as to make a long course, and finally become embedded and lost, if the orifice of entrance be so located that the tension of surrounding tissues could close the opening immediately after the passage of the ball, and exclude air from the track, the entire passage behind the point of pressure would heal by quick union, leaving only the very orifice of entrance to granulate with suppuration. From these observations I inferred that any gun-shot wound placed in a similar condition of exclusion from atmospheric air would heal in the same way. Strengthening my impressions with the fact, that extensive shell contusions, with bloody infiltration and with serious injury to dress tissues, would not necessarily suppurate, provided the skin be entire, I adopted a plan for healing all gun-shot wounds by the first intention, viz: by hermetically closing their orifices. At my suggestion, an order was issued to Field Surgeons of the Confederate Army to adopt the following method of treating recent gun-shot wounds. As soon as the wounded are bought to the field hospital, and it is ascertained that no foreign body complicates the wound, the crushed, torn and contused skin, immediately around each orifice, should be included between two crescentic incisions. The bruised skin having been dissected off, the clean, smoothly cut surfaces, substituted for the ragged opening, are to be brought and retained carefully in apposition by fine points of suture. I expected, by this simple and comparatively painless operation, to convert all gun-shot wounds into subcutaneous ones,

believing that nature would remodel and heal these plowed-up tracks, in the same way as she so successfully manages contusions, however extensive, without producing suppuration, and with but little inflammatory deposit. If this plan could be successful, I foresaw the greatest advantages from its adoption.

The suggestions were tried and failed. The reports made to the Surgeon General were adverse to its adoption. In some cases disastrous results. In many instances the nicely cut skin would heal rapidly by the first intention, although undermined by the passage through which the ball had passed; but this did not prevent the tissues from suppurating. Although they were hermetically sealed, matter would soon accumulate and reöpen the newly cicatrized wound. In other cases the pent up pus produced such painful abcesses, that to avoid the extensive burrowing of pus and mitigate the sufferings of the patient, the healed orifices were cut open to give vent to the pent up fluid.

My philanthropic scheme having failed in its object, I was desirous of ascertaining if possible the cause of the persistent suppuration in gun-shot wounds. I was fully aware of the fact that subcutaneous, contused and lacerated wounds would frequently heal without the formation of pus; that the fractured ends of bones would often tear up the deep soft part; and in spite of their lacerated condition they would do well, provided no external wound admitted air to the mangled tissues. I also felt satisfied that I had not been deceived in my observations, that under certain conditions gun-shot wounds would heal by quick union without suppuration.

In pondering upon these matters, my attention was attracted to the fact, that rapidly healing gun-shot wounds were those made apparently by nearly spent balls, which having their velocity materially retarded, could be diverted from a straight line by any resisting medium. After a more or less tortuous course, not having momentum enough to escape from the limb, they would be finally arrested, and would remain embedded and lost in the tissues. Where a ball had power enough to force its way through a limb and escape, leaving behind it the usual track, with double orifices of entrance and exit, no attempt at quick union would be observed. Protracted suppuration always accompanied the progress of such wounds. I could but

draw a comparison between wounds inflicted by the round and by the conical ball; and note, that in spite of the increased momentum of the latter missile, suppuration was its constant accompaniment, which was not so universally the case with wounds inflicted by round balls. The statement had been made and very generally accepted by Surgeons, that a missile moving with great rapidity when impinging upon and traversing a member, would cut the tissue so nicely as to similate an incision made by a sharp instrument; and that the greater the velocity the greater the likelhood of making a wound which would heal without suppuration. A parallel condition was supposed to be seen in the cleanly punched hole in the pane of glass by a rifle ball, and the crushing of the entire pane by the much slower stone. Experience soon compelled me to discard this explanation as opposed to observation. The conical ball, at short range, moving with great velocity, might contuse the less, and tear through the more readily, yet our rapid cures were not found among this class of wounds. It was the nearly spent ball with slow velocity which did apparently least injury to tissues. From these observations we were led to believe that a gun-shot wound was something more than a contused and lacerated wound; and that the cause of such constant sloughing and suppuration must reside in this additional complication. Field Surgeons have frequently remarked upon the dryness of gun-shot wounds, which seldom bleed unless a vessel of some little size be directly opened; and that those wounds were particularly dry, which were inflicted by missiles in full velocity at so short a range, that the surface around the orifice of entrance would be blackened by the powder. Persons receiving such injuries, would describe the sensation as one of intense burning, as if a red-hot wire was suddenly thrust through their flesh. Should we not ponder upon these two symptoms more seriously than we have heretofore done, and may we not find in them the object of our search, the cause why gun-shot wounds are so prone to suppurate?

Prof. John Tyndall, in his work, "Heat Considered as a Mode of Motion," has given us many satisfactory proofs of the indestructibility of force, and how heat, motion, electricity &c., are different conditions of the same force, one being readily converted into the

other. By the consumption of heat, motion is given, and vice versa, by the arrest of motion, heat is generated; a confirmation of the position taken by Locke two centuries ago that "Heat is a very brisk agitation of the insensible parts of the object, which produces in us that sensation from whence we denominate the object hot; so that what in our sensation is heat, in the object is nothing but motion," and by Davy in 1812, when he wrote "the immediate cause of the phenomena of heat is motion."

Prof. Tyndall elucidates this problem by the following simple experiments. A musket ball is suspended by a string long enough to permit it to fall from the ceiling of a room upon an iron plate placed upon the floor. The object of the string is to prevent the ball receiving heat from the touch of the hand. The temperature of both ball and iron plate is tested by bringing them in contact with a thermo-electric pile, and the deflections of the needle indicate, if any thing, a slightly lower temperature than the air of the room. By means of the string, the ball is thrown up to the ceiling and made to fall upon the slab three or four times in rapid succession, and now when brought in contact with the pile, the deflections in the opposite direction show that the ball has been heated. "This heat is due entirely to the destruction of the moving energy which the ball possessed when it struck the plate of iron. According to our theory, the common mechanical motion of the ball, as a mass, has been transferred to the atoms of the mass, producing among them the agitation which we call heat."

The amount of heat thus generated has been accurately calculated; and it is found that a ball of lead, falling through 772 feet, would generate heat sufficient to raise its own temperature 30 degrees, or 1 degree for every 26 feet of fall. If the motion be imparted to a body by any other means than gravity, the destruction of such motion would also produce heat. *"A rifle bullet, when it strikes a target, is intensely heated. The mechanical equivalent of heat enables us to calculate with the utmost accuracy the amount of heat generated by a bullet when its velocity is known." We will continue to quote the following pertinent remarks from a lecture by

† Tyndall on "Heat considered as a mode of motion.

Prof. Tyndall: "The velocity imparted to a body is not proportional to the height from which it falls. If the height be augmented four-fold, the velocity is augumented only two; if the height is augumented nine-fold, the velocity is augumented only three-fold, and so on, the height augmenting in the same proportion as the square of the velocity. But the heat generated by the collision of the falling body, increases simply as the height; consequently the heat generated increases as the square of the velocity. If, therefore, we double the velocity of a projectile, we augment the heat generated when its moving force is destroyed four-fold; if we treble its velocity, we augment the heat nine-fold, and so on.

"The velocity imparted to a body by gravity in falling through 772 feet is, in round numbers, 223 feet a second—that is to say, immediately before a body strikes the earth this is its velocity. Six times this quantity, or 1,338 feet a second, would not be an inordinate velocity for a rifle bullet. But a rifle bullet if formed of lead, moving at a velocity of 223 feet a second, would generate on striking a target, an amount of heat, which, if concentrated in the bullet, would raise its temperature 30 degrees; with 6 times this velocity, it will generate 36 times this amount of heat; hence 36 times 30 or 1,080, would represent the augmentations of temperature of a rifle ball, on striking a target, with a velocity of 1,338 feet a second, if all the heat generated were confined to the bullet itself. This amount of heat would be far more than sufficient to fuse the lead; but in reality, a portion only of the heat generated is lodged in the ball, the total amount being divided between it and the target." In firing an iron ball from a cannon against an iron target, the the projectile after collision is often found hissing hot, and Mr. Fairbairn, surperintending the experiments in gunnery at Shoeburyness, states that it is a common thing to see a flash of light, even in broad day, when the ball strikes the target.

It having been conceded that the destruction of common mechanical motion produces heat in a fixed ratio, depending upon the rapidity of the moving body, the amount of tangible heat detected depends upon the conduction of the target and the readiness with which the bullet gives up its acquired heat. Among the list of substances noted for their high or low conductivity, it is found

that animal tissues are composed of such as are best calculated to resist sudden changes of temperature, and that muscular tissues are nearly impervious to heat, being classified among the poorest conductors. When the needle actual cautery is applied to living tissues, although it impresses very decidedly the tissues with which it is brought into immediate contact, the extended action of the red hot wire is very limited, the tissues but a short distance from those destroyed retaining their integrity.

When a rifle ball moving with great momentum strikes the body, the resistance which it meets with in retarding more or less suddenly, the missile developes in it more or less heat, and as the medium through which the hot ball is passing is a very bad conductor, the heat cannot be rapidly disseminated, but being pent up in the projectile, exercises its more or less burning property to the detriment if not the destruction of the tissues through which it is passing. The greater the velocity of the bullet and the greater the resistance or more sudden and complete its arrest, whilst passing through the tissues, the greater the amount of heat generated and concentrated for the injury of such tissues. Experience confirms this, when observation teaches us that rapidly moving balls from a short range, dashing through the living body, leave sloughing, suppurating tracks behind them; in other words, seared tracks, walled in by burnt tissues, which must suppurate whatever their condition be, as to length direction, obliquity, &c. When a ball nearly spent comes lazily along and tears its way into a limb, until the resistance to its progress overcomes its diminishing momentum and the ball remains embedded, so little momentum existed in the missile before striking the person, that its complete arrest affords but little force to be converted into heat and the ball has scarcely any appreciable increased temperature. Such nearly spent balls may make contused and lacerated wounds, but the tissues traversed by them have not their vitality impaired or destroyed by a high temperature. Their condition is not incompatible with healing without suppuration, provided the injured tissues enjoy certain advantages of exclusion from air, &c., &c.

Many of the peculiarites attending gun-shot wounds can be most readily explained by the heating of the missile. The dryness of

the wound, the small amount of hæmorrhage unless a vessel of some size is opened, the burning pain experienced simultaneously with the injury, the constant disposition to suppuration and sloughing, and the flattened and changed shape of the bullet, indicative of a softened and pliant condition of the metal, may all be satisfactorily accounted for by this increased temperature.

Unless we understand the pathology of a disease, our treatment must be empirical; and until we appreciate the true character of a gun-shot wound we cannot establish fixed principles for our guidance.

ART. III.—THE CATTLE PLAGUE. By A. P. MERRILL, M. D., New York.

The publication of the voluminous reports of the British Commission on the cattle plague now prevailing in Europe, enables us to understand something of the character and fatality of the disease, and of its origin and progress. It is supposed not to be a new disease, but substantially the same that appeared in Europe in 1348-9, after the terrible epidemic called the Black Death had produced great mortality among men. It appeared in Europe again in 1480, also in 1715 and in 1745, lasting to 1757, on all these occasions coming from the far East. France is said to have received it half a dozen times in the same way during the last century, supposed to proceed each time from the vast herds upon the Russian steppes.—The disease is reported to have prevailed in Bavaria from 1713 to 1716, from 1729 to 1735, and from 1742 to 1745. Indeed, some account is given of the cattle plague in Eastern Europe as early as 820, and that it appeared from that time to 1861, eighteen times destroying 200,000,000 head of cattle.

It does not appear that the characteristics of the disease in all these visitations were in every respect the same as those of the present epidemic, but the similarity was sufficient to justify us in considering it identical. The discrepancies in the different epidemics were not greater, perhaps, than have appeared in the various recurrences of epidemic diseases affecting the human race. Like these human epidemic diseases, the pathology of the cattle plague has

been a matter of dispute from the beginning. It is not less so at the present time, and we are left to judge of it by the symptoms and the post-mortem appearances, as furnished us in these elaborate reports of the British Commission. The witnesses examined and consulted were very numerous—Physicians, veterinary Surgeons, irregular Practitioners and non-Professional persons, and considering the vast extent and variety of the testimony, there is a striking uniformity in the representations made. I proceed to give only a small portion of them, gathered from various portions of these reports, as follows:

The symptoms are, loss of appetite and power of digestion, constipation followed by diarrhœa. The cattle stood with the back up, and they had a running from the eyes, and from the nose, and were scoured. The breathing sounds indicate approaching congestion of the lungs, before the running from the nose and eyes. On examination after death, the lungs were found more or less congested, but without any signs of pleuritis. The bronchial congestion justified calling the disease catarrhal fever. The mucous membrane of the bowels is always congested. The animals are dull, but not stupid. The disease cannot be typhoid fever, there being no disease of Peyer's glands, but there is a continuous inflammation of the mucous tissues from the mouth to the anus, and early inflammation of the mucous membrane of the organs of generation. It is, indeed, a disease affecting the whole mucous surfaces. The earliest local symptom in cows is inflammation of the vagina. In Saxony, the mucous membrane of the bowels is inflamed, ersudate, and apparently ulcerous; liver blood-red and soft. In one locality in England, it is declared to be a disease *sui generis*, resembling typhus in being depressing and contagious, with the appearance of a red papular eruption upon the skin and about the vagina in the latter stages. Other symptoms are, (a.) loathing of food and drink; (b.) sparing and dry evacuations from the bowels; (c.) mites in the mouth; (d.) small, quick pulse; (e.) unequal warmth; (f.) slight cough.—Another represents the symptoms to be, 1st. cold horns, ears and members; 2d. shivering; 3d. bristling of hair; 4th. gnashing of teeth; 5th. shaking of the head; 6th. involuntary rising from the stomach; 7th. quick breathing and oppression; 8th. heat in horns

and ears; 9th. the pulse quickened and feeble, with the last fatal symptoms, bloody and putrid diarrhœa.

In Austria, the cattle plague is said to be a disease of the animal's several stomachs, the food in them being found undigested and dry. In Hungary, cattle are said not to be liable to be a second attack of the disease. After many experiments, English Physians discovered that the disease can be detected at an earlier period than had been supposed, by the rise in the temperature of the body, as ascertained by the thermometer, from 102 to 104 and even 105½ degrees, F.; the first local symptom being eruption in the mouth, and almost simultaneously there is redness in the vagina. About seventy-two hours after this rise in the temperature of the body, symptoms of illness appear, but more commonly the period is 110 hours. After four days of drooping head, hanging ears, distressed look, failing pulse, oppressed breathing and discharge from the eyes, nose and mouth, comes the cutaneous eruption and fetid breath. On the 6th day there is great debility, lower temperature, and death generally occurs on the 7th day. Another report says, the 3d and 4th days are characterised by local congestions, coägulations in the capillary vessels, with the blood quite stagnant. The early congestions in the mucous membranes of the digestive organs arrests digestion, rumination and appetite. There is also some congestion of the lungs, with accelerated breathing and slight cough. The severity of the disease is not in proportion to the rise in the temperature.—Another says the disease is an essential or general fever, with the local lesions principally in the mucous membranes and the skin, with much uniformity in the development and duration in the three successive stages. First stage, increase of temperature the first and second days; second stage, the third, fourth and fifth days, the appetite fails, rumination ceases, the excretion of urea is augmented, with loss of strength and weight; third stage, there is a rapid decline, sinking, loss of heat, &c. A high degree of heat is not considered an unfavourable symptom, even to 107 degrees. In most cases the animal fell suddenly in collapse. The most constant symptom is disorder in the visible mucous membranes. The bowels are at first constipated, and this is followed by diarrhœa, with tenesmus and watery or mucous stool. Involuntary aqueous

dejections of an ichorous character often take place, in appearance strikingly like those of cholera.

Dr. Haupt observed vigorous reäction as in synochus fever, shiverings, rigors and nervous excitement, followed by torpor and disease of the mucous tissues. Dr. Koch reports intense fever, tremors, twitchings of the muscles of the flanks and belly, horripilation, eyes sparkling and staring, then of a sunken, dull, muddy appearance; conjunctiva first reddened, then livid; intense hyperæmia and softening of the mucous membranes. Dr. Mancet says there is a close parallel between cattle plague and cholera in the relative proportions of water and solids in the blood, caused in both cases by diarrhœa draining water from the blood. Mr. Rutherford, of Calcutta, says the early symptoms are these: The disease is ushered in, in all cases, with fever of a remittent character, but it is only in a few cases that the shivering and sweating are observed. The skin is hot and dry, or otherwise of a clammy feel; ears hot, and the pulsation of the arteries is very distinct; extremities are hot and cold alternately; breathing accelerated and oppressed; catching of the flanks, and frequent twitchings of the muscles of the flanks. Many in India believe that cholera is to man what rinderpest is to cattle. The symptoms in the East are also thus stated: 1st stage, low spirits, lassitude, inactivity; 2nd stage, mucus from the eyes and nose; 3d stage, diarrhœa of thin yellowish fecal liquid; 4th stage, general swelling of the body, the principal seat of the disease being in the mucous membranes of the digestive organs, and greatest in the fourth stomach. In Belgium the symptoms are represented as dull and motionless attitude; back arched, with the legs converging under the body; a peculiar expression of the eyes; discharge from the eyes, nose and mouth; suspended rumination, panting, moaning, trembling, diarrhœa, cessation of milk, extreme weakness, prostration. The respiratory system is little affected, emphysema and cutaneous eruption mostly wanting. Disease concentrated in the digestive organs.

I have endeavoured to give from these elaborate reports, a sufficient number of extracts to enable Physicians to form opinions in regard to the pathology of this interesting bovine epidemic; and I may properly add, that the post mortem appearances as described,

and especially as illustrated by the well executed plates, all sustain the views of the several reporters and witnesses, as to the local lesions in the mucous membranes of the digestive organs, extending from the mouth to the anus. The other mucous membranes are more moderately affected, but the serous membranes and the parenchymatous structures are not seriously implicated.

The disease is evidently a form of ideopathic fever, coming on with a chill, followed by a stage of reäction, and remitting or intermitting distinctly in its early stages. In its inception, and rapid course to a fatal issue, it resembles yellow fever and the graver forms of bilious fever prevailing among men in hot climates, excepting that its local lesions are not the same. And its symptoms and course are nearly the same as those of the bovine fevers of the Southern States, prevailing more extensively, perhaps, in Tennessee than elsewhere; the local congestions and inflammations in these being principally in the liver and kidneys. As in human fevers, these bovine diseases come on slowly and insidiously, existing for several days in so mild a form as frequently to escape observation. This fact seems to have been established by the use of the thermometer in ascertaining the animal temperature in suspected cases. I am the more disposed to credit this view, because it accords with my observations in regard to all the graver forms of fever among the human race in warm climates, and corresponds also with my experience with the bovine fevers of Tennessee. The animals there droop, and show signs of chill and of febrile reäction, for several days before the disease assumes serious and alarming symptoms, and this preliminary fever is most likely to be observed in cows, from the fact of a partial suspension of the secretion of milk, the effect of febrile action. But independent of this, I have observed that cattle are seen to droop, with coldness of the horns and ears when undisturbed, and then, upon being roused from this seeming stupor, to lose for a time all signs of disease; but it is well understood by farmers that these premonitory symptoms, however mild they may be, are followed by fatal disease.

From the information furnished by the reports of this Royal Commission on the cattle plague, it seems probable that the disease exists in certain Eastern countries, in a sporadic form, at all times; that

in certain parts of India, Russia and Poland, it often prevails as an endemic; and that it is only occasionally, at uncertain periods, that it becomes epidemic and extends into Western Europe. These epidemic visitations have never yet been extended to America; but like the modern epidemics affecting the human race, which, in former times, in travelling Westward from the place of their origin, were arrested in their progress by the Atlantic ocean, but which now find this broad expanse of water only a slight obstacle to their progress, this cattle plague will probably find its way to our shores. On this account it is important that its pathology and treatment should be studied, so that no American official may be able to say of the Profession in this country what has been said to these Royal Commissioners by the Lord Mayor of London, that "nothing has been done in the way of a curative process. Medical skill, or medical science, ought to be brought to bear upon the matter. It is possible a remedy may be found."

After an experience of a thousand years, no one believes that anything is known of successful treatment, and Physicians of eminence, in despair of the efficacy of remedies, advise indiscriminate slaughter as a means of arresting the disease. All recoveries are supposed to be due to the remedial powers of nature, exerted upon the milder forms of the disease. So firm, indeed, is the conviction that all medication is ineffective and injurious, that the Prussian government has forbidden it by law. It is not a matter of surprise, therefore, that the mortality is rated from seventy to ninety-five per cent., to which, if we add the vast numbers slaughtered lest they might take the disease, we have a fearful account of the destruction of that class of animals most relied upon for human food. May we not hope for better results should the epidemic reach this country?

It is well known to Physicians who are in the habit of observing these things, that the diseases of animals bear a close resemblance to those of the human race. With little variation, they present the same pathologic phenomena, and require the same treatment. In regard to their origin and expansion, epizootics are governed by very much the same laws as the epidemic diseases prevailing among men; and this is especially true of febrile affections. The first two

stages of the febrile paroxysm are the same, with the same manifestations of chilliness and heat. There are the same insidious approaches, the same intermissions or remissions, the same certainty of congestion in particular organs and tissues, the same inflammatory and gangrenous results, the same nervous disturbance, suspension of secretion, absorption and nutrition; the same deterioration of the blood and other fluids, the same excitement above the standard of health and fall below it, and the same rapid decline of vital energy and sudden death. It is reasonable, therefore, to expect that the same plan of treatment is required in both. And what is this plan of treatment?

This depends on the pathology; and, to begin at the beginning, we must consider that the earliest pathologic condition in all febrile epidemics is congestion. This is the result, or the inseparable concomitant of chill; and its localization, always the same in any prevailing epidemic, depends upon some mysterious influence not yet understood. If it be in the lungs, the disease is called pneumonia; and, should the pleura be also implicated, pleuro-pneumonia; if in the stomach, it is gastric or yellow fever; if in bowels, it is enteric fever, &c. But there is a form of epidemic fever in which the congestions are concentrated in the mucous tissues of the digestive organs, often implicating other mucous tissues, and the skin, by sympathy, with these. This form of epidemic in the human race is called cholera, and in the bovine, cattle plague or rinderpest. In the former, there is often exhaustion, collapse and death, without reäction; in the latter, there is, in general, inflammatory reäction followed by gangrene.

The first therapeutic indication is, to relieve the congestion and chill, which lay the foundation of subsequent evils. This has been done from time immemorial, with good measure of success, by that class of remedies supposed to act specifically upon the nervous system, and which are sometimes called neurotic remedies; but a more prompt and decided remedial agent is blood-letting. To this I have resorted with much success in the treatment of yellow fever, and the graver forms of bilious remittent fever in the South. If judiciously applied in the forming stage, or in the inceptive chills, it facilitates and at the same time moderates the force of reäction, mitigates the

violence of local disease, and converts the fever into a milder grade, which is amenable to treatment. This remedy I have also applied, with equal success, to the bovine fevers of Tennessee, and the only recoveries of which I have any knowledge have taken place under this treatment.

But in treating a case of congestive chill of great violence, causing convulsions, in 1852, I discovered the power of chloroform, given internally, in this pathologic condition; and from that time to the present day I have, in no one instance, failed to secure relief by chloroform, given in such quantity as will induce sleep, which effect is evidence of its full physiologic effect. So complete, indeed, is the relief afforded by this remedy, in hypnotic doses, that in many cases there is no perceptible reäction. I have made no trial of this remedy in the febrile diseases of animals, but there can be little doubt that the cattle plague may be thus benefitted, and sometimes even arrested, in its inceptive stages. But on account of the great bulk of undigested food in the stomachs of cattle, and the early suspension of healthy function in the digestive organs, there may be difficulty in obtaining prompt action of this and other remedies administered by the stomach. Fortunately, this may be obviated by injecting the chloroform into the bowels, where absorption is more certain. A safe and convenient dose for men is a fluid drachm, which may be repeated every half hour until sleep is secured. For full grown cattle, the dose should be a half an ounce, repeated at like intervals. This may be followed by alteratives and tonics, calomel and strychnine being, perhaps, the most important; and to these, acid drinks may very properly be added.

The reäppearance of the cattle plague in Europe has revived the vexed question of contagious influences, which ever attaches itself to epidemic diseases. The affirmation is sustained by a vast amount of testimony, which the Royal Commission has shown great assiduity in collecting, and it receives support from the reported fact of the communicability of the disease by means of inoculation. Yet, in spite of all this, the plague is constantly making its appearance in localities where contagious influences cannot be suspected; and it is spreading over vast districts of country, precisely as epidemic diseases among men have done, since the earliest period of medical

history. Some English Physicians have ventured to express dissentient opinions, but the doctrine of contagion is in the ascendency. Whether the disease be contagious or not, it evidently follows the same course and conforms to the same laws as other general epidemics. It is found prevailing upon high-lands and low-lands, in confined and in ventilated positions, in city and country, sometimes sweeping whole herds of cattle from existence, sometimes only decimating them, and occasionally sparing all but two or three. It comes mysteriously, and just as mysteriously disappears, even while there are abundance of subjects upon which to operate.

There can be no doubt that fatal epidemics have often appeared among animals in connection with diseases among men, and it would be interesting to inquire whether there be any such connection between the cattle plague and the cholera, simultaneously prevailing in Europe and Asia. The sweating sickness and the Black Death, which caused great mortality in Europe, had their accompanying diseases among animals. The same has been true of small-pox, yellow fever, and other diseases prevailing epidemically, and it may be true of cholera. It may be considered some evidence of such connection between cattle plague and cholera, that they not only prevail simultaneously, but that both diseases have their principal seat in the mucous membranes of the digestive organs. But I cannot now pursue this inquiry.

ECLECTIC DEPARTMENT.

"Floriferis ut Apes in Saltibus Omnia Limant."—LUCRET.

I—TREATMENT OF FRACTURE OF THE LOWER JAW BY INTERDENTAL SPLINTS. By THOMAS BRIAN GUNNING, M. D., New York.

In the year 1840, when treating the first fractured lower jaw placed in my care, I found treatment by bandages, etc., unreliable. For, while the muscles tend to displace the bone, bandages frequently increase the difficulty; especially when swelling sets in through their pressure. They also, by interfering with the circulation, tend to prevent union. Teeth, loosened by the injury, are left unsupported, and the motions of the jaw, cheeks and lips painfully restricted.

Of the contrivances invented to supplement bandages, many were even more objectionable, and little improvement has been made in

general treatment up to the present time. Having successfully used interdental splints, in many cases which had proved unmanageable under the usual treatment, I am convinced that they are superior to all other appliances.

When a well adapted splint is on the teeth and gum, the other parts around the bone are, to a great extent, a counter-support to the splint. Thus the broken jaw, together with any teeth loosened by the injury, is held securely in place, until the fractured bone is reünited and the teeth become firm. Meanwhile the motions of the jaw are in most cases unrestricted and the cheeks and lips always left free.

The best time to commence fitting a splint is immediately after the injury, if the condition of the patient will allow. If the fracture is old and has been treated by bandages, and there is much displacement of the fragments, with swelling of surrounding parts, it may be advisable to leave it *free* for several days.

When the fracture is not quite recent, pain and stiffness may prevent the patient from opening the mouth sufficiently to apply a splint, in which case the operator should force the jaw steadily downward with his fingers, assisted by wedges of wood, etc. This may be very painful to the patient at the time, but the movement of the parts, will be followed by great amelioration of the pain and stiffness. Hooks, forks and strings applied to the teeth, will manage the fragments with less suffering to the patient than handling the inflamed muscles. The fragments of the jaw should be set and held by wire, pack-thread or silk, passed around the teeth. If the teeth are so formed that the ligature slips off, it may be carried through the gum with a needle. When a fragment of the jaw falls below the one next to it, a ligature of wire should be fastened around the neck of the lower tooth, two eyes being made by twisting the wire, before applying it. Another wire should be fastened around the neck of the elevated tooth, and both ends brought up on the side furthest from the fracture, over the crown, down through the eyes before mentioned, and then tightened until the bone is in place. Or the wire may be fastened to a tooth further back, and then pass over the crown, etc. On this principle, ligatures may be applied to the teeth laterally to bring the fragments into line. A jack-screw, furnished with points, forks and collars, is frequently necessary to extend the fragments, but in some cases it can be done by a piece of wood. The jack-screw should be made to turn by its centre, and the points, forks, etc., fitted into sockets, that they may be left still when the screw is turned. This instrument may be used across the mouth to keep out any back fragment that falls in, or more in front to extend oblique fractures. In fractures behind the canine when the back fragment comes forward over the front—being allowed to do so by the absence of teeth and the direction of the fracture—the jack-screw, with a point in the front fragment and a fork in the back one, will be found very useful in making extension. One fitted with hooks, to draw in the jaw by inserting both hooks near the external oblique lines, or in any required positions, will be found indispensable in some cases. A piece of hard wood forced in between those teeth which fall toward

each other, and to which it must be fastened with fine iron wire, will frequently give the needed extension. When the jaw is broken between the canines, with the fragments smooth and the parts around allowing them to go in any direction, there is frequently a front tooth absent, through the fracture, or by shedding, etc. In this case a piece of moderately hard wood may be fitted in the vacancy. It should be so wide that the adjoining teeth will press into its sides, when they are wired tightly. If this is well done the bone will be firmly set. Should the teeth in question need support, they may be wired to those adjacent.

An impression of the parts should be taken in pure yellow wax, warmed by *dry* heat. But in comminuted fractures there may be portions of the jaw and teeth for which plaster of Paris would be better, but it must be applied in sections. The wax should be applied in a mouth-cup adapted to the jaw. No. 4 splint is precisely what is required for this purpose. (Some useful hints may be found under that head.) If fracture should occur in a jaw without teeth, plaster would be much the best. It should then be applied in a cup to all parts of the jaw at one time. If possible (and it is rarely otherwise), an impression of all the teeth and gum, *properly set*, should be taken at one time. The wax in coming off will then draw or enlarge in the right places, and the plaster-cast from it will be precisely what is required to mould the splint, excepting the addition caused by the ligatures.

If the bone cannot be held in place, an impression of each fragment should be taken separately, and the casts from these impressions united by plaster in their proper relative positions. A cast of the upper teeth will sometimes guide in doing this. The united cast must be enlarged under those parts of the teeth which overhang. But when the pieces of the jaw can be held *nearly* in place, an impression of all may be taken at one time, the cast separated where necessary, and then adjusted as above.

By adopting this method, when there is little displacement, the jaw may be left unset until the splint is applied. When adjusting the cast, care must be taken that it is not made too small for the jaw and teeth as a whole, or for any tooth individually. There is little chance of getting it too large, as far as the teeth are concerned.

On February 12, 1861, I applied a "hard vulcanized rubber splint" to the fractured jaw of a seaman in the United States Navy Hospital, and from the vulcanite splints used by me since that time I have selected three which show all that is essential to hold any fractured lower jaw in place.

The fourth, a metal splint, is sufficient for the treatment of most cases, and can be applied by surgeons and country practitioners, who can also treat most cases of fracture with rubber splints, if assisted by the neighboring dentist. But a severe fracture may occasionally be met with, which will require either a specialist or an accomplished dental surgeon.

Fig. 1 represents the inner surface of a splint which incloses all the teeth and part of the gum of the lower jaw, and merely rests against the upper teeth when the jaws are closed. This splint is adapted to the

treatment of all cases which have teeth on both sides of the fracture, except those with *obstinate* vertical displacement.

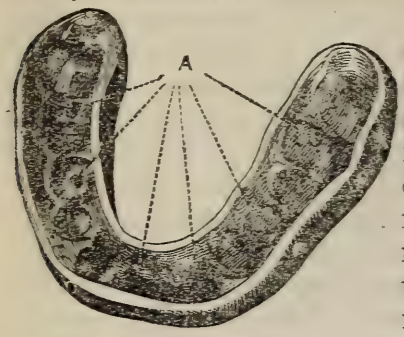


Fig. 1.

The holes marked A go through the top of the splint for the purpose of syringing the parts within with warm water during treatment. The dark round spots in all the cuts represent holes for similar purposes.

The angles of the jaw tend outward, when the jaw is fractured through the body. It is therefore necessary that the splint should go down and extend back as far on the outside as the muscles admit, especially on the short fragment, if there is much difference between them. The parts near the external oblique line are so formed that the splint can be fitted to them perfectly. The outer ends of the splint should be quite thick, so that they may be well rounded.

When the gum on the inside is so overhung by the back teeth as to afford but little bearing for the splint, the latter may be cut off, generally at or just below the edge of the gum, for there is rarely any tendency of the jaw to fall in at its lower border. The splint should not extend into the muscles unnecessarily in any part.

When the jaw is fractured in or near the front, the digastric and other muscles, inserted on the inside near the symphysis, draw the bone backward and downward. This splint neutralizes the first by holding the sides of the jaw *in*, which prevents the arch in front from falling back.

The tendency of the jaw to widen at the angles and to fall in at its upper border, so that the points of the canines approach each other, is also counteracted. The splint goes down about half way (on the outside) from the points of the teeth to the lower border of the jaw, and all the surfaces of the teeth and the outside of the gum are held by it, while the condyles and their interarticular cartilages are so far above the lower edge of the splint that their leverage prevents the sides of the jaw from being turned outward by the muscles inserted near the symphysis.

This must be effectual so long as the splint is down in its place; and even when the fracture is back of the canine, and the four pairs of muscles are acting upon the front of the jaw, there is little chance that they will draw it down out of the splint, as they act in concert with the elevator and other muscles attached to the bone, when the *splint is on and the jaw allowed to open and shut.*

There is also, in recent fractures, a roughness of surface, which prevents the fragments from moving when held close together. But if the fracture is so old that the fragments slide past each other, especially if the back one slants away and affords no support to the forward one, it *may* be necessary to hold the latter up by a screw passing through the splint into the canine or some other tooth, near the depressed end of the bone. That horizontal displacement which frequently follows fractures near the canine and lateral incisor teeth, in which the front of

the jaw is drawn back by the muscles inserted near the symphysis, leaving the end of the short fragment in determined projection, and in which the treatment by bandage and ligature is not only useless but pernicious, is effectually overcome by this splint, without screws. A large proportion of all fractures may be successfully treated in this way. When a *very* loose root or tooth is present, it may be advisable to remove it before application of the splint.* Rarely so before the impression is taken, as they are frequently of use in holding the jaw.

I have generally used this splint without any fastenings, but in children or even adults it is sometimes advisable to secure it by packthread, wire, screws passing into or between the teeth, or by the wings and band of Fig. 4.

Fig. 2. *In cases with obstinate vertical displacement*, the splint, in addition to fitting the teeth and gum of the lower jaw, must also inclose the upper teeth, as shown in the cut, where screws may be seen opposite both lower and upper teeth.

By this arrangement the fragments of the lower jaw are secured, not only relatively to each other, but also to the upper jaw.

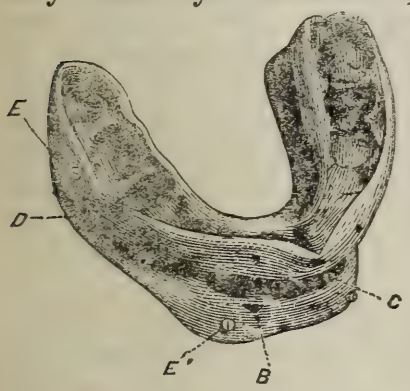


FIG. 2.

B, triangular opening, of which one side corresponds to the cutting edge of the lateral incisor, which tooth stood in the end of the fragment most displaced before the splint was applied. C, opening for food, speech, ect. D, channel for the saliva from parotid gland to enter the mouth, its fellow being seen on the other side of the splint. E, screw opposite lower canine tooth, head of the left screw being just discernible. E, head of screw opposite upper first molar tooth end of its fellowbeing seen on the other side.

This splint is therefore adapted to the treatment of all fractures *back of the teeth*, whether in the body, the ramuses, or the terminations. In these cases the splint may be cut away in front, and extended across the roof of the mouth, when there are upper and lower back teeth to fasten to, and thus give as much room as possible to speak and eat through. Opening the teeth a quarter or three-eighths of an inch would not have any bad effect on the position of the fragments, even if the jaw were broken through the necks of both condyles, as the parts near the fractures would move but little and the back of the jaw could be raised high enough to keep the broken surface in contact. Even if the neck of one side only were broken, the lower part could be kept firmly up against the fragment above. In fracture of the ramuses no difficulty would arise from this course. If a coronoid process were broken, this plan would give as good a chance for union as any. In fracture of the angle, this process would be likely to hold the parts in contact. If it did not, a wing could extend out from the splint and pass back from the corner of the mouth to hold a pad, etc., against the part requiring support; it could rest on the zygoma, or the mastoid process, if necessary.

* This is intended to refer to teeth loosened by disease, or loss of the alveolar, previous to the injury, not to those which may be loosened by it.

In cases where enough of the front teeth are lost to afford room for food to enter, the jaws need not be opened more than will just give room for the rubber to pass through to hold the parts of the splint outside the teeth to the parts inside. A separation of a line would be sufficient, or *even less*, if any back teeth were absent to give room for pillars of the rubber to hold the upper splint to the lower.

As a rule, the splint should be fastened on both sides, above and below. Fractures back of the teeth are frequently less troublesome, so far as application of the splint is concerned, than those which are broken in the body.

When the body is fractured behind the canine, the back fragment requires no support to keep it in the splint, the muscles doing that effectually. But that portion of the jaw which includes the symphysis, whether separated on one or both sides from the parts behind, must be *firmly held* up in the splint by one or two screws, according as it is fractured. When the fracture is between the lower canines, one firm upper central incisor will hold the splint up firmly. With fractures in the *back* of the lower jaw, a tooth on each side of the upper jaw, back of the canines, would be sufficient for any case. Teeth which have lost much of their supporting alveolar will *bear great strain* in the *direction of their sockets*, but the firmest teeth will suffer from slight lateral pressure; consequently ligatures are of little use, except temporarily. The thread must be removed from the screws on the ends which enter the teeth. The holes drilled to receive them should be from half a line to a line in depth, according to the size of the tooth. This will not injure the teeth, but they should be filled, however, after the jaw has united.

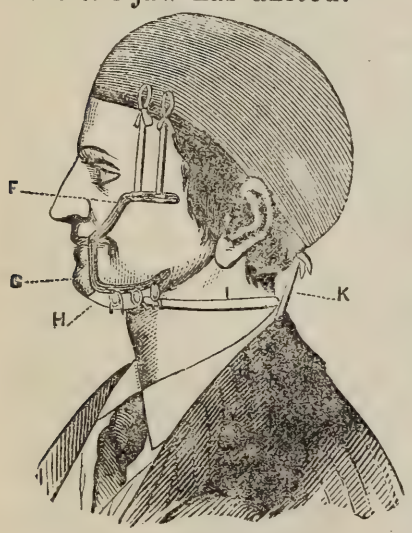


FIG. 3.

F, upper wing G, lower wing. H, mental band to hold the jaw up in the splint. I, neck strap to keep the band. K, balance strap to hold the cap in place.

This splint can be made very thin, a shelly covering being all that is necessary in many parts. Opening should be cut in the sides where the absence of teeth or separation of the jaws gives a chance for the saliva from the parotid glands to enter the mouth, otherwise it may overflow at the lips. Small openings should be made opposite particular teeth, to observe how the jaw stands in the splint. This is important in all splints.

Fig. 3 shows the wings for cases *having no teeth in either jaw*—the ends of the wings within the mouth being imbedded in a vulcanite splint, similar in principle to that of Fig. 2.

Wings made of steel may be quite light. They should have fine teeth along the edges where the band and tapes bear to prevent slipping, and small holes every half inch to hold the strings, lacing, etc. The arch of the wings should be high enough to give the lower lip

room to go well up. The wings for each side of the jaw are in one piece, and the parts within the mouth pass back in the line of the upper gum. They are thinned down and pierced with holes, that the rubber in which they are imbedded may hold them firmly.

The tape strings pass from the cap inside and under the upper wings, then up between them and the tape lacing, (see figure), which kept the strings from slipping to the cap whence they started. The mental band passes up between the sides of the lower jaw and the wings where it is tied by the strings, which pass through the holes. (See figure.) The band is cut off to show this; but when worn it should be turned down on the outside and pinned just below the wings. The neck strap should be sewed to the mental band on one side and pinned on the other, and worn tight enough to keep the band from slipping forward over the chin.

The jaw and splint are supported by the cap forward of its centre. this is counterbalanced by the elastic strap, which passes from the back of the cap down around an unelastic and much heavier strap, extending across and fastened to the shoulders by elastic ends. The balance strap returns to the cap and is buckled tight enough to hold the jaw up. At night it may be slackened to do this, with the neck flexed. It slides on the shoulder strap as the head inclines to either side.

By this arrangement the splint is a resting place for the broken jaw, while the wings give firm attachment to appliances which hold the jaw up with the least possible pressure upon the external parts, as the wings need not press either against the jaw or the zygomas.

Should the band fail to keep a very depressed fragment in place, a metal loop may be fastened to the wings. From this, a metal point going through the soft parts could be brought to bear on any portion of the bone requiring firm support. (See Malgaigne.) But no external appliances, especially those which rest upon the muscles, can give the firm and comfortable support afforded by splints fastened to the teeth. Therefore, with suitable teeth in either jaw, the cap, or the mental band and corresponding wings, should be dispensed with.

When getting the articulation, or relative position of the jaws and teeth, it is necessary to bear in mind that the *position* of the lower jaw is *peculiarly* dependent upon the muscles attached to it. Neglect of this has caused great mastakes both in diagnosis and treatment, patients having been put to much suffering by the endeavors of surgeons to set fractures which did not exist, the displacement supposed to indicate them being the result of fracture in another part of the jaw—the latter being drawn out of shape by the muscles, etc., (suffering from laceration contusion or severe swelling), and *thereby prevented from going into proper articulation with the upper jaw*, while the surgeon supposes that the ramus, or neck of the condyle, etc., is broken.

With only incomplete fracture, in which the bone retains its shape so perfectly that treatment is unnecessary, weeks or even months may elapse before the muscles are able to bring the jaw into place, so that the lower teeth will close against the upper, as before the injury. In

fact, this inability may be present *without any* fracture of the bone.

These injuries are frequently aggravated by bandages, and the displacements increased and caused by them in the broken jaw, and also in its relation to the upper, are sometimes irremediable by any subsequent efforts, even in cases which correct treatment in the outset would have cured perfectly.

In consideration of these facts, it is important to discriminate between displacements which can be reduced by art and those which should be left to nature.

The fragments of the lower jaw having been set in their proper places relatively to each other, the whole must be put in normal relation to the upper jaw *as near as the condition of the muscles and ligaments admit.*

If the jaw is allowed to move during treatment, it will generally go into place before the bone is firmly united. When held still, it may not do so until some time after.

(Remarks upon displacement are given only so far as they are directly necessary to a proper application of the splints, and to an appreciation of their efficacy—the object of this paper. Correct diagnosis, however, is the foundation of proper treatment, and will be dwelt upon hereafter.)

Fig. 1 is the representative splint for the treatment of cases in the first class, or those in which the jaw is left free. Fig. 2 for the second class, or those in which the jaw is held still.

The articulation in each class is obtained by a method differing from the other. Consideration of these methods has been postponed until now, that they may be more easily understood. The reason for getting the articulation in different ways will be seen distinctly by recollecting that the fractures in the first class can be so *well* held together that the gutta-percha and wax have a firm resting place to carry them against the upper teeth. In the second class, however, it is frequently difficult, and occasionally impossible, to set the fragments in place, although it is desirable that *the splint* should hold them precisely so as regards each other, and, as a whole, in the best possible position relatively to the upper jaw. Now, the upper jaw, being uninjured, affords a proper basis for the gutta-percha and wax. The lower jaw can, therefore, be passed *carefully* up in place, and any fragment *specially* directed into the best attainable position in the wax. The wax, with its support of gutta-percha, may then be put upon the cast of the upper jaw, and the adjusted cast of the lower jaw placed in it precisely where required, as there is now a second opportunity to overcome any imperfection in the bite made by the teeth in the displaced fragments.

In the first class, a piece of dentist's gutta-percha should be warmed by *water*, and moulded to the plaster-cast of the lower teeth, etc. Upon this sufficient wax should be placed to give a bearing for the upper teeth and the proper thickness to the splint. When cold it must be placed on the *lower teeth*, and the jaws closed until the upper teeth press properly into the wax, then replaced upon the cast and trimmed into the shape required for the splint. The indentations made by the

upper teeth should be cut down, so that only their points may touch the splint. The whole should then be set in a vulcanizing flask, to form the mould for the rubber splint.

But in the second class, as indicated before, the gutta-percha, etc., should be placed upon the *upper teeth* or *gum*, and the lower teeth or gum brought up in place. A case, however, is sometimes seen in which the articulation must be obtained in a radically different way.

When the upper teeth are so marked by the lower ones as to indicate the relative position of the fragments clearly, they do this for the jaws also: and by placing the adjusted cast against the upper cast, and setting them in an articulator, the normal relative position of the jaws, whether open or shut, may be obtained more accurately than from the mouth, *in some fractures*. A model of the splint can therefore be made of gutta-percha. When quite cold from immersion in ice water, it should be put upon the upper jaw, and the fragments of the lower pressed up into it, to test the accuracy of the adjustments. This model might be used to form the mould for the splint without the original casts, if either were found incorrect, for the gutta-percha could be made to fit by a little heat and pressure. As a rule, it should only be used to set the casts.

This plan is less painful to the patient in extreme cases, as it avoids the setting of the fragments and taking the bite. But it requires considerable care, as allowance must be made for any altered condition of the fractured surfaces, and also for any inability of the fractured jaw to go into proper articulation with the upper.

The gutta-percha or wax, when taken from the mouth, should be placed between the cast representing the lower or broken jaw and that of the upper jaw, then cut into shape, the female screws, or the wings, imbedded, and the set whole in a suitable flask.

The nuts for the screws should be about an eighth of an inch square, and a little less than a line thick, thus giving sufficient length to the female screws in the centre. The nuts should be beveled down, inside and out, on three sides, but the fourth only down to the middle one of three gold strips, of which the nuts are formed, this strip, being left long, should be turned over a short distance from the nut and its edges notched—it will then act as a standard to hold the nut in place in the mould. Each nut must also have a piece of tough wood screwed into it. To set them in position, bore a hole in the plaster tooth exactly where the screws are to enter the natural teeth. Place one end of the wood into the hole with the *nut* against the plaster tooth, and bring the wax up close around it. In this way the other end of the wood will stand out and be imbedded with the gold strip in the plaster forming the mould, and the nuts held firmly while the rubber is packed.

Dental works give full directions for the vulcanization of rubber, and also as to many things necessary to a successful application of these splints.

Before applying the splints, all the projections caused by air holes, or other imperfections in the plaster-cast, must be cut away, especially

in the parts covering the teeth. The rubber may also be beveled off where it fits close on the festooned edges of the gum. This will give more room for the teeth to enter in applying the splint, and leave the gum unpressed while the splint is worn. The latter should be well oiled inside before application.

A piece of packthread or silk, about a foot long, placed around the neck of one or more teeth, is frequently useful to draw a fragment into the position suitable for entering the splint. It should be tied at the ends, but not around the teeth, so that it may be easily cut and drawn away before the splint is on tight. Although the fragments of the bone may not have gone completely into place before taking the impression, little anxiety need be felt as to their going up into the splint if the latter has been properly adjusted, as the muscular displacement frequently yields to the more normal condition produced by the splint, even when it is only partially in place.

If the jaw should not go well up in the splint, it may be worn loose for a day or two, to allow the muscles to relax. This, however, is rarely necessary.

A tube just large enough to slide into the female screws, should be inserted, to protect them while the teeth are being drilled to receive the ends of the screws. The tube must be made of thin plate, and should be set at a right angle in the end of a thick piece of plate, that the latter may serve as a handle to keep the tube from turning with the drill.

Rubber splints are neat and comfortable. They can be kept free from food and all unpleasant odors, if frequently cleaned externally with a tooth-brush, and on the inside by means of a small sponge on the end of a crooked probe. They should also be frequently syringed with warm water, etc.

Fig. 4. This splint is made of tin. Six or eight sizes might be cast (and kept ready for use,) from which one could be selected suitable for the jaw. The wings are of malleable iron, tinned to prevent rusting and for more readily soldering. Three sizes would be sufficient to select from.

The splint should have a handle in front, that it may be used as a cup to take the impression of the jaw—the holes being useful to allow a small probe to be pressed through the wax down to the teeth, thus allowing air to enter to facilitate the removal of the impression, and when in use as a splint giving entrance to warm water, thrown from a syringe, to keep the parts clean.

The splint should be made to fit well by bending, cutting off the edges and rounding them up smooth. When a tooth projects so as to keep the splint from fitting, a hole may be cut to let the tooth

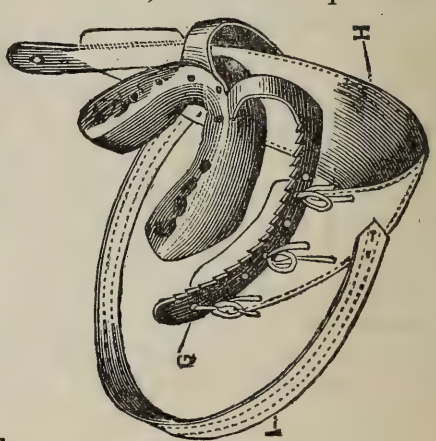


Fig. 4.

G, wing of malleable iron, projecting with its fellow, from the splint to which they are soldered. H, mental or splint band, with the end left up to show the manner of tying it. I, neck strap.

through, if the metal cannot be hammered out. This should all be done before taking the impression, as a well fitted cup assists greatly in this important matter.

(The adaptability of this splint is shown in the fact that the one from which the cut was taken had been used successfully on two different jaws, so unlike that the first was a quarter of an inch wider, where the ends of the splints rested, than the second. When fitting it to the second jaw, it was necessary to cut off a part of the right wing, to keep it clear of the corner of the mouth. This accounts for the difference in the width of the arches as seen in the cut. The indentations on the top of the splint were made by the boys in eating.)

After the *cast* is obtained, the handle in front should be cut off, and the wings *if needed*, soldered on, care being taken that their edges are clear of the corners of the mouth, when *open*. Warm gutta-percha should then he placed in the splint, pressed down on the cast, and after cooling it in water, dig out the softened plaster.

If the splint is found to rock on the teeth, it should be removed, a *little warm* (not hot) *water* be poured into the lining, then carefully replaced upon the teeth, and slightly pressed down. It will then fit perfectly. This lining will be of such form that it will come off the teeth readily, therefore the jaw can be examined when desirable.

The gutta-percha could be placed in the splint and applied *directly* to the teeth and gum, if the jaw is set *sufficiently firm*, as there would be no difficulty in drawing the lining off before it was cold, to remove the ligatures. But if they are put on so as to keep clear of the gum, they might be left during treatment, as the lining would prevent them from moving the teeth.

If the jaw retains its place when the gutta-percha is pressed down, the splint might be *left* on. In this way the gutta-percha, by embracing the teeth, and fitting in between them, would hold the fragments of the jaw firmly in place.

It is, however, much more difficult to apply gutta-percha than wax, as it requires more heat and pressure.

When the jaw can just be held in place, and it will bear but little pressure, hardly that of warm wax, plaster of Paris might be used as a lining. In many cases it would hold the fragments in the splint for a long time.

This splint can be used without wings, in any way that Fig. 1 will answer.

The mental or splint band must be used when there are no teeth suitable to fasten to. This is frequently the case in children. This band may be removed for washing when necessary, care being taken that the patient keeps the jaws closed during the removal, in the earlier stages of treatment.

The splint has so far been spoken of in its adaptation to fractures in which the jaw is allowed to *move*. It can also be used instead of Figs. 2 and 3, by soldering suitable portions of another splint on the upper part, to hold the lining for the upper teeth. When the teeth are not fit for screws, the cap of Fig 3 could be used, with long tapes to reach

down to the wings beside the lower jaw, if a ready-made lower wing could not be fitted so as to act in the place of an upper one.

No care will keep this splint as pleasant as one made of rubber. Gutta-percha absorbs, and becomes very offensive, but the small quantity used for lining the splint is protected and covered so, that, with great cleanliness, it may be worn with little annoyance.

This splint has the advantage of being easier of application, and can be applied, if ready made, in much shorter time than a rubber splint.

In fractures treated with either kind of splint, the trouble and anxiety are over when the splint is on, as there is then no chance for the jaw to get misplaced.

In ordinary cases the splints may be removed during the first three days, if any edge is pressing so much into the gum as to be painful. With proper care in the fitting this will be unnecessary.

These splints hold the fragments so well together that I have seen badly lacerated gums heal up, so perfectly in from two to three days, that the fractures were then only simple.

No bad effects are produced by splints covering the teeth and gum. On the contrary, teeth that are so much loosened by the injury as to be beyond recovery in the usual treatment, are securely held by the splint and become firm again. The gum looks red and soft while the splint is worn, but a short period suffices for its complete restoration, even when it has been covered up for months. I generally leave the splint on long enough to feel assured that temporary removal will not endanger the union, which is very delicate for some time. How soon this will be, after the first application of the splint, and how long before the splint can be dispensed with, depends upon the gravity of the injury and the state and age of the patient.

With the fragments held in place, little apprehension need be felt of those painful abscesses, exfoliations and other complications so often present in the usual treatment. The advantages of splints over bandages are so great that nothing but experience will give a full appreciation of them to any one. I am able to speak positively upon this point, as nearly all the cases treated by me had been found unmanageable by the old methods, before coming under my care, and some of them were gravely complicated.

[The cases are then given successfully illustrating the advantages of this splint.—ED.]

II.—SELF-RETAINING SPECULUM.

We take pleasure in reproducing for our readers the following note from the inventor, and commend the extract and plate for their consideration, as promising for the Practitioner much aid and help from this valuable invention.

[*Extract of a letter received by Editor.*]

I have been in Philadelphia and New York for the past two

weeks, and I am pleased to tell you, that this speculum is regarded by the leading men, in the Profession, in both those places, as a complete success.

I saw Dr. Emmet use it at the "Woman's Hospital" the other day, in the presence of twenty or more Physicians, in a case of fistula, which was upon the operating table over two and a half hours.

Dr. Emmet said at the time of operating, and repeated the same that night at the Obstetrical Society, that he had never used a speculum of any kind with so much satisfaction in an operation of that duration. The great advantage that this speculum possesses over all others, is that it remains any length of time precisely in the position that you place it. In a word, it is perfectly self-retaining, and never slips.

Really more of the vagina can be exposed with this instrument, than with Sims' speculum, for with this speculum the perineum can be brought, if required, farther back and so held firmly, as long as may be wished.

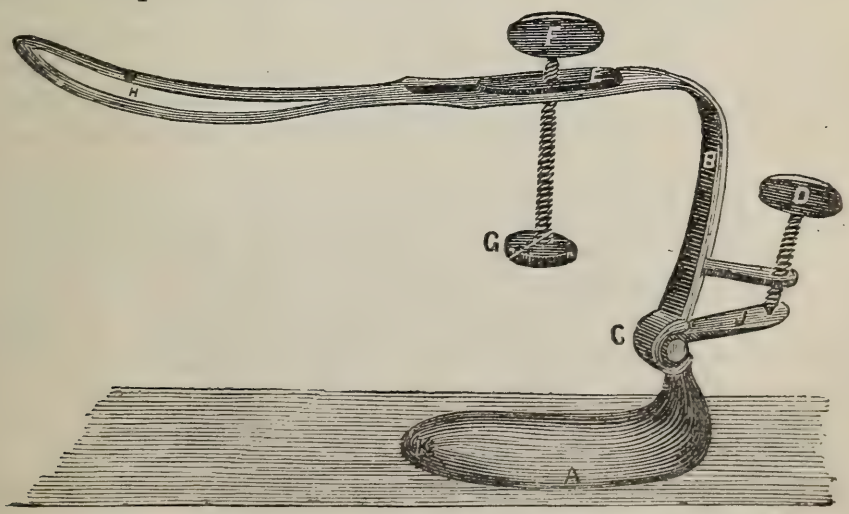
Different sized blades can be used to this speculum, which is a matter of no little importance.

Many of the Professional men here are using it daily, in the ordinary local treatment of uterine diseases.

Every one who use it once, prefers it to all others.

Dr. Geo. Syng Bryant describes (*St. Louis Med. and Surg. Journal*, Oct. 1866) a modification of Sims' Speculum which seems useful, being self-retaining.

"This instrument consists of a blade *A* and lever *B*, with screws attached, so as to completely fit the lever to the sacrum and back, and to elevate or depress the blade at will.



This speculum operates precisely in the same manner that the Sims'

Speculum does, with the exception that it retains itself. The blade *A* is introduced into the vagina, and then connected with the lever *B* by the notched joint *C*. At the end of the fenestra *H* in the lever, a strap is attached which is to be carried around the body or waist, and tied before the pad, upon which the button *G* rests, is to be placed upon the sacrum. Above the bend of the lever is a slide *E*, to which is attached a screw with a button *G* at the end. This button rests upon the pad on the sacrum, and the screw is then turned until the requisite amount of tension is made upon the perineum.

"The screw *D*, at the lower end of the lever, which rests upon the arm *I*, of the blade, is now turned until the free or distal end of the blade *K*, is elevated or depressed, as may be desired, to the proper degree to bring into view the os uteri and the whole of the vagina, except that portion upon which the back part of the blade rests. This speculum is easily fitted, and its introduction is without pain to the patient. It was made by Leslie & Co., of this city, from a diagram. The accompanying cut is only one-third the size of the instrument."

Dr. B. states that when he contrived this Speculum, he was not aware that Dr. Emmet, of New York, had previously modified Dr. Sims' speculum so as to make it self-retaining, but, though Dr. E.'s modification, he states, answers well in lean women, with a thin, weak perineum, it does not do so well in muscular women.

III.—Bromine and its Compounds. By J. H. Hollister, M. D., and Prof. Chicago Med. College, Chicago.

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I. Its natural history, in brief, is this: Bromine was first discovered by Balard, in 1826. He obtained it from that portion of sea water from which common salt had been crystalized, and it was first named by him "*muride*," from "*muria*," *brine*. When Gay Lussac took it in hand for examination, he conceived it to be the sum total and aggregate of all villainous stinks, and pursuaded Balard to call it "*brome*," or bromine, from the Greek "*bromos*," *the stink*. Neither of these men being familiar with the Chicago River, they deemed the bantling justly named.

So strong are its affinites, that it is never found in a free state, but, in various combinations, may be derived from both the mineral and organic kingdoms. In the organic world, it is obtained from many of the marine plants of the Mediterranean, in the stony concretions of sea sponge, and, especially is it to be noted, as one of the constituent elements of "*cod liver oil*." Its inorganic combinations are too numerous to mention. In the waters of the Mediterranean, the Baltic, and the Dead Sea, and in very many of the salt springs of the old and new world, it is found in greater or less abundance. The German springs of Kreusnach are especially rich in it, and from this source it was formerly mainly obtained. More recently, it has been found in the

salt springs of Salina; and in still greater abundance, so as now to mainly furnish the market, from the salt springs in Pennsylvania. Its main combinations in these waters are with calcium and magnesium. Of the manner of its preparation I shall not speak.

II. *Physical Properties.*—Bromine, in its pure state, is an exceedingly volatile liquid; of a dark red colour; pungent odor; acrid taste; boils at a temperature of 117° Fahrenheit, and solidifies at 4°; is not combustible; does not support combustion; immediately extinguishes a taper thrust into its vapor; is most soluble in ether; a powerful bleaching agent; colours the skin yellow, when in contact, as does nitric acid; and has a specific gravity nearly three times that of water.

III. *Forms of Administration.*—It has been highly recommended by Dr. M. Goldsmith and his associates, in the form of solutions of various strength, from 20 to 40 drops of bromine to the ounce of alcohol or ether; and still later, they advise its external application in its full strength. Internally, it is most frequently administered in the forms of bromides of potassium and ammonium. Its vapor diffused through the air is, also, one form of its use.

IV. *Physiological Effects.*—The very concurrent testimony of a number of observers is to the effect, that bromine has a *decided sedative influence* upon the *cerebro-spinal nervous centres*, and that, as a result of such impression, its free use is followed by diminished action of the heart and general circulation, lessening the special sensibility of particular portions of the system, and exerting a happy, tranquillizing influence in cases of excessive reflex excitability.

V. *The Diseases in which its Use is Indicated.*—Its physiological effects are not so decided but that they may be easily modified or controlled by serious structural diseases, or morbid processes going on in the system. The cases in which most benefit is derived from its internal use, are those in which functional derangement, rather than organic diseases, is present. Its very beneficial effects in certain forms of insomnia have been noted by several writers, and I have to add my own observation in several marked cases, in which a nervous, wakeful condition was well controlled in persons where opium was not well borne, and with none of its unpleasant sequences. Acting upon the suggestion of Brown-Séquard, who has spoken very decidedly in its praise, Mr. Henry Behrend, an eminent English practitioner commenced the use of bromide of potassium in 1864, in cases of insomnia and restlessness, dependent upon nervous excitement and irritability. He cites several cases, where business men, by a severe overtaxing of their mental powers, were wholly unable to procure tranquil sleep. His prescription, in the instances cited, was 25 grs. of the bromide of potassium three times a-day, dissolved in a little cold water, and with the happiest effects. Several of my associates have given me a like assurance of its beneficial influence as a sedative, and often very happily meeting the want where opium was not tolerated, and where valerian and other anti-spasmodics had failed.

Unhappily, the habits of our American people are such, that, for

our overworked business men, for our overtasked children in schools, for our enervated females, who become morbidly sensitive mothers, a remedy like this seems especially needed, and it may be said in praise of this salt of potash, that, while it is a decided nervous sedative, it does not at all impair digestion, it does not constipate the bowels, and tends rather to allay than promote irritation of the urinary organs.

The dose for its sedative effect, in cases now alluded to, may vary from 15 grs. to 30, in solution, three times a day. Brown-Séquard assures us that he has given it in drachm doses, for several consecutive weeks, without any deleterious effect. As might be anticipated it has already been very fully tried in *epilepsy*. Dr. Wilks, of Guy's Hospital, cites two cases, in which the exhibition of 5 grs. of the potash, three times a day, was followed by recovery, when the ordinary remedies had failed.

His theory is this: That in those cases there was local affection of bone or membrane, and that the remedy relieves by its absorbent power. I think it more probable, that the primary and favorable effect is upon the *nerve* tissue, diminishing its irritability, or else the iodide of potassium, which is more potent as a stimulant to absorption, would act with superior energy and success, which is *not* the case. Dr. Rodgers, physician to West London Hospital, has recently tested its use in this disease, with very favorable results. He directs 15 to 20 grs. three times a day, and has relieved entirely several cases that had baffled all previous effort. He dwells specially upon its use in epilepsy induced by excessive masturbation, one case, very severe in its development, yielding to a continued use of 25 grs. three times a day, for several months.

A friend of mine related a cases that had excited a good deal of interest in Boston recently, where physicians had failed to relieve a patient of most distressing pain in the cervical portion of the spinal cord, and which Brown-Séquard controlled almost immediately by the administration of 20 grs. of bromide of potassium, administered three times a day, and continuing its use during several weeks.

I have tested the use of bromide of potassium, recently, in a case of tetanus, but without appreciable benefit; the case passing rapidly to a fatal termination, the exciting cause, whatever it may have been, brooking no restraint. Yet, in both these dieases, I am disposed to trust more to the use of bromine than to all other remedies.

One of its special effects is upon the nervous distribution to the upper portion of the respiratory tract. Hence, several papers have made their appearance upon its use in spasmodic affections of the larynx and bronchi. In spasmodic asthma, it has been spoken of with favor. In spasmodic croup, where there is a proclivity to its frequent return, I believe the tendency may be, in many instances, broken up by its judicious and timely use.

Whooping-cough is another affection, over which it exerts a very perceptible influence, and to its use in this disease, I invoke your careful consideration. Dr. Gibbs, of Westminster Hospital, London,

reports a list of cases of this affection treated with bromide of ammonium. Not all were relieved. Those with spasmodic cough, however, were almost uniformly cured of the whoop; but in proportion as catarrhal symptoms were present, it failed to afford prompt relief. To infants, he administered from 3 to 5 grs. in solution three times a day, increasing the dose to 4 and 8 grs. in the cases of older children.

This drug is found also to produce a decided anæsthetic effect upon the genito-urinary passages. I have tested its effects upon irritation of the male urethra, and upon the genital irritation inducing nocturnal emissions, and have succeeded with this better than with any other remedy. A colleague cites a case of long-standing, habitual seminal emission, cured by the use of 20 grs. of bromide of potassium three times a day, its use being continued for a number of weeks.

Dr. Debout, a French writer, cites a remarkable case of stricture of the urethra, so irritable that it was found impossible to dilate it in the ordinary manner, with bougies and attended with excessive febrile excitement. He made use of a drachm, daily, of the bromide of potassium, and succeeded beyond his most sanguine expectation; for, he says, as soon as the bromide had taken effect, the catheter could be introduced with greater and greater dimension, without any unfavorable effect. In this case, its hypnotic effect was very remarkable, for, although the patient had been almost sleepless for weeks previous, when only a half drachm had been administered, he obtained a good night's rest. In cases of irritability of the bladder, it has been equally successful. In some cases, its use has been discontinued from its excessive somnolent power, inducing too profound and prolonged sleep. Where there exists a morbidly sensitive condition of the mucous membrane of the genital organs, I think this remedy will be found to act very kindly, and, in the instances which have come under my notice, quite efficiently. It will be found serviceable in allaying the congestion and excitability of the genital organs of those habituated to masturbation, and may well be prescribed for its local sedative effect, during the period that the unfortunate victim is endeavoring to rid himself of the habit. I tried, in several cases, the use of bromide of potassium in this morbid condition of the genital organs, where produced by nocturnal emissions, in doses of 3 to 5 grs. three times a day, but failed of any satisfactory results till I had increased the dose to 15 and 20 grs. given at the same intervals. I anticipate that, where there has been developed in these organs decided inflammatory action, the drug will, in a measure, fail to meet our desire; but in the case of decided local inflammation of the part, I still believe the exalted sensibility will be in a good degree controlled, and that this effect will favor recovery.

In all these cases, whether of epilepsy, tetanus, whooping-cough, bronchial irritability, or excitement of the genito-urinary organs, those cases are most favorably affected, where the patient is in a moderately sthenic condition; and, indeed, it will be found beneficial sometimes to sustain with decided tonic treatment at the same time

that bromine is used for its tranquillizing effect. Several cases of extreme prostration and wakefulness were well relieved by the use of 1-20 gr. of strychnine administered three times a day, at meal-time, followed by 20 grs. of the bromide at bedtime. In all cases where it is administered to persons who are *enfeebled*, I think special care should be taken to support at the same time by appropriate tonics.

I pass, lastly, to consider its external use as a disinfectant and as an escharotic. The testimony of Surgeon Woodward, 22d Reg't Ill. Volunteers, to Surgeon Goldsmith, is very decisive, as to the effects of the vapor of bromine in wards devoted to the treatment of erysipelas. Others speak so decidedly in its praise when used in its volatile form to prevent the contagious effects of erysipelas, that I confess a desire to see their experiences more fully verified, and if the half is true which is asserted of it, we may well rank it next to chloroform—the second best of God's gifts to surgery. I am disposed fully to test it, by liberating a moderate amount of its vapor in all confined rooms where contagious or even pernicious diseases are to be treated, with the view of determining to what extent it has power to neutralize the *miasm* which is productive of contagion.

Finally, its use is recommended in the strongest terms by Surgeon Goldsmith, his hospital assistants, and others, as an escharotic. The strong affinity which it has for the elements of the tissues causes it to act upon them in a similar manner to nitric acid; but it is found superior to the latter, from the perfect neutralizing effect which it exerts upon the poison producing hospital gangrene. It has seemed, in many instances, an absolute specific against the ravages of this disease, controlling the progress of the sloughing, and changing the wound to the condition of a healthy ulcer in which, granulations springing up readily, the recovery was rapid. Of the manner in which it exerts its beneficial effect, both upon living and decomposing molecules, I am not able to speak; but the fact remains, that when, in its full strength, the solution of bromine has been applied to a gangrenous ulcer or wound, the peculiar fetor disappears, the rapid decomposition of tissue is arrested, the wound soon puts on favorable appearances, the patient demands food, improves in strength and soon rallies from his critical condition.

Of course there are numerous modifying influences which may prevent its favorable effects, but, so far as the local poison which developes and propagates hospital gangrene is concerned, it is asserted, upon reliable authority, to neutralize it promptly by a single thorough application, and that thereafter the wound is to be esteemed and treated as of *non*-malignant character. How fully the experience of the great body of army surgeons is confirmatory of the strong assurances of Surgeon Goldsmith upon this point, I am unable to say; but I close the paper at this point, to solicit from those who may have given it a full and impartial trial the result of their experience, as an external application in the prevention of erysipelas and in the cure of gangrene.

Two queries present themselves, which I will not withhold. The

one is: May not the presence of bromine with *iodine* in cod-liver oil give to it an efficiency not possessed by any of its artificial imitations? The other: May not the bromine found in most of our saline and some of our chalybeate springs have given to them a more decided curative power than we have been wont to ascribe to medicinal springs?

With caution, that we do not anticipate too much from bromine as a curative agent, remembering that its action may be easily modified and entirely controlled by strong disturbing influences, as in acute disease, still I think it well for us to test, patiently and carefully, its effects upon the human economy; and I feel confident that many instances, in the diseases before mentioned, and perhaps others, we shall find in it a remedy which all must acknowledge to be essentially needed in the treatment of disease.—*Chicago Medical Examiner.*

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

Clinical Notes of Cases Treated in Different Hospitals of the Late Confederate States—Continued. By James M. Holloway, M. D., Professor of Physiology, University of Louisville, Ky. [From private Note-Book.]

Case 16.—[Gun-shot, involving the axillary artery, which healed by first intention, without surgical interference.] General Hospital, Howard's Grove, Richmond, Va.—C. H. D., Corporal, Ward's Battery, Mississippi, aged thirty-one years, merchant, general health good; wounded July 18, 1864, near Petersburg, Va., by a sharp-shooter, while sitting in camp.

Gun-shot wound (a small minnie ball which, after striking him, wounded his companion) through left shoulder—ball entering on a line with and about two inches to the right of the posterior margin of axillary crease; made its exit about one inch above its anterior margin passing through the lower border of the large pectoral muscle.

A note from Surgeon W. M. Nash, who examined the injury a short time after its infliction, states that "the axillary nerves are seriously injured, and indeed the artery does not seem to have escaped, though no hæmorrhage has occurred; the impulse in the radial artery is very slight. July 20th, Petersburg."

July 23rd. I examined patient for the first time this morning; he thinks he has felt the pulse at the wrist occasionally, and that at such times he experiences a sense of fulness, as if the arm was filling with

blood. He states also that Surgeon Palmer, in charge, has examined him frequently since admission, and he thought he could, at times, detect pulsation at the wrist. Sensation and motion perfect in arm and hand, excepting some degree of numbness in thumb; wounds of entrance and exit closed by clots; no discharge; no evidence of inflammation; complains of occasional pain and a sense of heaviness in limb. Transferred from his ward to a tent, and directed moist dressings, and rest in recumbent posture.

24th.—Rested well during night under a full dose of morphia. I can discover no pulsation in the brachial, below site of injury, nor in any of its branches. Temperature of limb lower than the other; pain not constant nor distressing; wounds still closed, and no discharge. Surgeon J. B. Gaston, of Alabama, thinks he can discover a feeble pulsation in the radial, but nowhere else along the branches or main trunk.

25th.—Suffering from twitchings of muscles of arm and shoulder, which are controlled somewhat by cold water dressings. Clots dissolving; no sign of pus. Continue rest and generous diet.

August 4th.—Nothing of interest has been observed since last note—the case progressing favourably. No pulse at the wrist nor discharge of pus from the wounds discoverable; wounds closed by scabs; suffers, at intervals, with severe pain in the limb, or, as he describes it, "along the course of the nerves."

13th.—Left the hospital this morning *en route* for Canton, Miss. With exception of occasional pain in limb, has not experienced any unpleasant symptoms since his admission. Wound entirely closed by first intention, except at orifice of exit, from whence, on the 12th, a few drops of pus exuded, after the scab was removed by carelessness of the nurse. Pulsation below the seat of injury was not felt by myself at any time during the progress of the case, though repeated and careful examinations were made. I have heard from the patient, indirectly, on several occasions, since his arrival at home. His health is good; no evidence of aneurism in axilla; strength and motion of arm somewhat impaired.

Case 17.—[Gun-shot, involving ankle joint; recovery.] C. S. Hospital Chimborazo, Division 2, Richmond, Va.—J. G. C., private, 24th Va. Regiment, Company I, shoemaker, aged twenty-two years; wounded May 16th, 1864, at Drewry's Bluff. Gun-shot ball, impinging upon tarsal extremity of left tibi ; glanced downwards, and, passing through anterior aspect of ankle joint, lodged under integument over astragalus.

It was removed on the 18th. After receipt of wound he was able, with the aid of the rammer of a musket, to walk to the Field Infirmary.

May 23rd.—I examined the patient for the first time this morning. Foot and ankle swollen and inflamed; pain excruciating upon slightest motion; grating of inflamed articular surfaces distinct; pulse frequent; great constitutional disturbance; anorexia and insomnia. Prescribed cold irrigation and morphine in full doses.

June 1st.—After free incisions, to favor the escape of pus (with which synovia was freely mingled), and the persistent use of cold irrigation, and anodynes, and nourishment, the inflammation has subsided, and the condition of patient is much improved, though appetite is still somewhat capricious and his condition critical. Abcesses around the joint continue to form and discharge; grating upon motion of joint still manifest.

25th.—Transferred to private quarters yesterday. Inflammation subsided; motion of ankle joint very slight; general health much improved.

January, 1865.—Patient still has imperfect motion of joint, but is able to walk with a cane; wounds all closed.

Note.—The above is a type case of a number that were observed by myself, in which the ankle joint had been invaded, and from which synovia escaped. Some of my records having been destroyed, I am unable to furnish the results. It is sufficient to state that quite a number recovered with useful limbs. But in those cases in which there was much comminution of the tarsal bones, even if the patient survived, the usefulness of the limb for locomotion was so much impaired that subsequent amputation was advisable—nay, necessary. In wounds involving the joints, no effort was made by myself to exclude the air. Such a procedure is not only unnecessary, but of doubtful propriety.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

PARIS, March, 1867.

An Imperial decree dated the 9th of this month, makes the following nominations to fill the numerous vacancies occasioned by death, and the retirement from active duty of so many of the

distinguished men who have given to the School of Paris the renown it has enjoyed during the past years. The new Professors of Internal Pathology are MM. Axenbeld and Hardy. The theory and practice of Surgery is confided to M. Broca. The Chair of Pathological Anatomy is to be filled by M. Vulpian, while MM. Lassègue and Lée are named teachers of General Pathology, Therapeutics, and Materia Medica. At the beginning of the Spring session, the school will again appear with its full complement of Professors, and already two of the recently created clinical services have been opened to the students; I allude to MM. Gosselin and Béhier at the Pitié hospital, and M. Monneret will not long remain inactive.

M. Béhier in his first lecture publishes, as it were, a programme and lays down certain philosophical propositions, which it were out of place to introduce here, save to mention their occurrence. He reviews the scientific merits, and is eulogistic of MM. Piorry, whom he succeeds at the Pitié, and Nathalis Guillot, at whose death M. Béhier was named Clinical Professor. It may not be generally known that M. Guillot was among the first to suspect the glycogenic function of the liver, and that he counselled Claude Bernard to direct his attention to this subject. M. Béhier avails himself of the death of Nathalis Guillot to say some words in defence of the school of Paris, and endeavours to ward off the attacks which have been provoked by its philosophical teachings and the changes which have lately removed from the scene Piorry, Trousseau, Jobert, Malgaigne and so many other noble intellects, which gave to the medical department of the Academy of Paris that preëminence it so long possessed. M. Béhier defines his own ideas upon the part he would assign to theology and religion in connexion with medicine. I merely mention this portion of his lecture, and pass on to the retrospect he makes of the services, the natural sciences, physiology, and chemistry have rendered, and which these branches still render. In retracing what is due to physiological investigation, the advantages resulting from experimental study of the medulla are at once manifest from the facility with which affections of this portion of the nervous centres can be traced to their origin. The order too, replacing that chaos which existed a few years ago, whenever

medullar disease was concerned, is no mean benefit. It is to physiology that we are indebted for a correct idea of the nature of inflammation which Claude Bernard has shown to be due to a paralysis of the vascular nerves of motion, instead of the former doctrine that it was an exaggeration of the vital properties of the tissues. To give another illustration of the valuable assistance derived from the same branch of science, M. Marey has demonstrated that fever also depends upon paralysis of the vascular nerves, which, lessening, as it does, the arterial pressure, quickens the circulatory process and augments organic combustion. It is owing to the knowledge of acoustics, optics, and the other departments of natural philosophy that auscultation and percussion, the microscope, and the different instruments for exploring the eye and other parts, have found their application, which renders such immense services in establishing the diagnosis, and frequently permits the probable termination of a case under observation to be predicted with tolerable accuracy. The utility of the many auxiliaries derived from that mechanical ingenuity which gives practical application to theoretical study, needs no more eloquent demonstration, than the eagerness with which these improved methods of investigation are sought after, and the additions to the already lengthy list, the record of each day chronicles. In speaking of the sphymograph, M. Béhier points out the kind of services this apparatus is called upon to render in cases where the diagnosis is doubtful. It was difficult to determine whether a patient in the male ward was suffering from bilious disorder, or whether a mild form of typhoid fever was not imminent. Without the sphygmograph, it would have been necessary to spend some time in expectation; here, however, Marey's instrument, registering the pulse peculiar to typhoid fever, immediately set uncertainty at rest. In my last letter, I mentioned how frequently the thermometer was employed in the hospitals of this City, and how valuable were the deductions as to diagnosis and prognosis its use furnished. Taking typhoid fever as an example—as M. Ladé does in his interesting publication, a partial analysis of which was contained in my last letter, and from which I shall again draw his conclusions concerning the disease named above—here two very distinct periods are noticed.

M. Ladé gives the credit of this discovery to Hamernyk, who was led to establish the distinction from the difference presented by the blood, as well as by the symptoms observed, and the lesions found on making post-mortem examinations. The thermometer, in truth, establishes the same distinctions, and shows that during the first period, when the lesions are formed and developed, the fever is *continued* in its character, or at best, slightly remittent; in other words the temperature is febrile both morning and evening. When the second stage is reached, (this M. Ladé styles the period of regressive metamorphosis) the fever becomes intermittent, the apyrectic temperature occurring in the morning. To return to the first period, which observation was found to be composed of two portions—the first occupying three or four days, whilst the latter continues for ten or twenty days. The shorter term is rarely observed in the hospitals, as patients seldom apply for admissions at the very outset of a malady. In private practice, the temperature is found to ascend from its healthy standard to about forty centigrade degrees. The ratio of increase is about one degree for twenty-four hours. The thermometer goes up from morning till evening; then it either remains stationary during the night, or else becomes a fraction of a degree lower, and waits until the next morning, when it resumes its ascension. This mode of progression lasts for three or four days, and constitutes the initial part of the first period. This species of thermometrical ascension, though it is characteristic of typhoid fever, and hence permits the diagnosis to be established, with almost complete certainty, still does not allow the prognosis to be formed, as the result given by the instrument during the three or four first days is the same whether the disease be slight or alarming in its future manifestations. When for three or four days the temperature is seen to increase gradually, and presents only an insignificant remission in the morning, but little hesitation need be felt in announcing the malady to be typhoid fever. Still, it is not well to be too absolute, as in cases of a different nature the temperature has, at the outset, sometimes followed an ascending curve similar to the one mentioned. On the other hand, if after an acute affection has lasted for thirty-six or forty-eight hours, the thermometer falls to its healthy standard, there is

no fear of typhoid fever. An equally positive declaration can be made, when 39° 5, 40°, or above, are remarked after six, twelve or twenty-four hours of indisposition; for in typhoid fever, the thermometer never ascends so rapidly, but on the contrary, requires from three to four days to reach 40°. As a rule, in this disease the maximum of temperature fluctuates between 40°, and 40° 5.—When the thermometer marks 40°, the opening scene of the first period draws to a close, still the mercurial column usually remains at that elevation until the end of the fisrt week; then it begins to descend, and continues to follow an inclined plane till the second division, named previously, appears. During the time occupied in the descent, the evening temperature is always higher than that taken in the morning. The thermometer follows the law which obtains in a state of health, with this difference however, that during *the whole* of the first period of typhoid fever, the temperature never for a moment ceases to be febrile. The oscillations are usually regular, save at times on those days which form the middle or the end of a week. Here occasionally the morning temperature is a degree and a half lower than that of the previous evening. The same too obtains when the extraordinary oscillation is compared with the observation immediately succeeding. These remissions are not of much importance; but they sometimes foreshadow an exacerbation of one or several symptoms. When once the diagnosis has been satifactorily established, the question, as to what prognosis may be drawn, naturally comes uppermost, and here, observation has shown that considerable light may be derived from an attentive study of the thermometrical curve. When each day, the temperature begins its ascension at an early hour—before noon—and when on the other hand, the corresponding descent is not noticed to commence about midnight, the patient is in danger. If, on the contrary, the increase be noted after mid-day, or only towards night-fall, and when midnight approaches the descent as has already been remarked, then the prognosis becomes more hopeful. Hence the advantage to be derived from applying the instrument several times daily, for this practice gives, as it were, the key to the future history of the disease. Another important point is the manner in which the oscillations occur, for when the morning and

evening temperatures remain at about the same level, an unfavourable augury may be drawn, and the fears to be entertained grow in proportion to the length of time, during which this continuance of the fever lasts. When 40° 5, or more, are found several evenings in succession, just cause for alarm exists, and when successive morning observations furnish 40°, the case terminates fatally. M. Ladé says that 41° are seldom met with, and that only in cases which end in death. On several occasions, from my own observations, and those placed at my command, I have been led to think M. Ladé's conclusion perhaps too absolute in this respect. I give a few of the figures which were noted in a case of typhoid fever in M. Monneret's female ward. The patient was discharged cured.

Dates.	*Morning Observation.*	*Evening Observation.*
Feb. 5th	38° 6	40°
" 6th	39° 3	40° 2
" 7th	39°	41°
" 8th	39° 2	41°
" 9th	39° 4	40°
" 10th	38° 5	39° 8

Other observations, similar in character, might be adduced to modify in certain instances the *absolutely* fatal prognosis M. Ladé draws when 41° are furnished by the thermometer. When towards the close of the second week, the fever remains at a stand still, or enters upon a series of increase, and is found to be of nearly equal intensity both morning and evening, the disease will be long and troublesome. If the contrary result obtain, the prognosis at once becomes encouraging. The passage from the first to the second period indicated by M. Ladé takes place as follows: The morning remissions become gradually better marked, as the first stage draws to an end, and when the second period sets in, the *morning* temperature is seen to fall to the healthy standard. Or else, on a sudden, the morning observation gives 37°, without there having been any premonitory signs of this abrupt issue. When the second period has begun, the morning temperatures fall to the healthy standard, whilst for the first few days the evening examination shows a comparatively high fever. Little by little, however, these variations lessen, and convalescence approaches, almost insensibly. The

second period usually lasts from one to two weeks, it being needless to add that its duration is under the sway of circumstances, it is at times impossible to govern. When convalescence has once fairly begun, the healthy range of temperature is found at all hours of the day, the thermometer even towards night being only a few tenths of a degree higher than in the morning. When the descent has ended, it not uncommonly happens that 36° and a fraction, instead of 37°, are met with, and this M. Ladé attributes to the state of inactivity to which the patient is subjected, as well as to the diet, which has been enforced during the malady. With regard to this last named explanation, viz., diet, it may not be improper to state that in M. Monneret's wards, where a stimulating treatment is employed, the same thermometrical variations, which seem to be due, as it were, to the absence of a guiding power, appear, and therefore their cause must be sought for elsewhere.—During convalescence, the temperature is apt to increase under influences so slight, that their effect would be imperceptible upon a healthy person. Thus M. Ladé speaks of a case where the thermometrical ascensions were found to arise from the fact that the patient had read a great deal. Upon this being forbidden, the fever speedily disappeared. When, however, it becomes impossible to discover the cause of this uncalled for variation during convalescence, strict attention is requisite, as the ascension proceeds either from functional or organic derangement.

A recent number of the *Gazette des Hôpitaux* analyses a memoir sent in to the Society of Biology of this City by an "*interne*," M. Prompt. This gentleman, during the last epidemic of cholera, instituted a series of experiments upon the patients at the hospital "St. Antoine." I give the thermometrical results obtained by M. Prompt, who found that the temperature of the rectum was nearly always superior to that of the mouth and axilla, and that, in the majority of instances, the thermometer ascends higher in this last region than in the mouth. The temperature of the mouth presents the greatest variations observed in cholera. In many cases, as M. Marey has remarked, the temperature of one region becomes higher in proportion to the diminution of heat noted in another part of the body, there being thus apparently a disposition towards the estab-

lishment of a system of counterpoise. On the other hand, it was observed, too, that at times the thermometer would descend simultaneously in the rectum, mouth and axilla, and when this happened, death was unerringly the prognosis. In cholera, M. Prompt noticed that the temperature at night was always higher than in the morning, thus showing that this disease is not an exception to the general rule in this respect.

The thermometer and the sphygmograph are not the only experimental methods employed in the medical wards of the hospitals. Duchenne (*de Boulogne*) has invented a small, portable dynamometer, which is so contrived that whilst it furnishes the muscular power of the individual in whose hands the instrument is placed, it marks at the same time the moment when the exhaustion of the nervous system begins, and permits the rapidity of that exhaustion to be followed. The dynamometer is similar in its construction to that appended to an apparatus for the reduction of luxations. The muscular exertion made by the person under experiment is marked, by a needle, upon a plate, the graduation of which corresponds with an indicated number of kilogrammes. To this plate there is affixed another needle, connected with the first, in such a manner as to follow its course during the exertions of the muscular power, and to *retrocide* when that power becomes overtasked. For example, the first needle shows the muscular power of a person to be seventy kilogrammes—*i. e.*, equivalent to the exertion it would be required to make to raise a weight of seventy kilogrammes to a given height. The second needle runs after the first, and if the strain be continued—even in the case of a healthy and strong man—after a few moments it will be seen to go backwards. The moment this retreat commences marks the beginning of the exhaustion of the nervous system, and the rapidity with which it takes place indicates the greater or smaller degree of integrity of this system. To continue the illustration: When the weight of seventy kilogrammes has been raised to a given height, let it be required to keep the weight at that height by muscular contraction only. For a moment this is possible; but little by little muscular fatigue comes on, and the weight begins to drop gradually. Then it is that the second needle comes into play, and shows the ratio of exhaustion, which varies in

health and in disease. By observing certain rules that result from experiments made under varied conditions of age, sex, &c., another element for establishing prognosis is furnished by M. Duchenne's instrument.

M. Monnéret has been for some time devoting his attention to the interesting influence disease exerts upon the weight of the human body, and for the last two years I have been examining this subject under his direction. Although the impossibility of introducing this mode of research into private practice may be alleged as a serious obstacle to its prosecution, yet the facility with which it may be employed in hospitals, and the very curious and interesting results it furnishes, are causing it to be adopted in Germany as well as in Paris. In 1864 Doctor Bauchaud wrote a monograph upon the nutrition of newly-born children; and pending the recent discussion at the Academy of Medicine upon the mortality of nurslings, MM. Odier and Blache, Jr., (residing students of the Paris Hospital) sent in a note resuming their own investigations upon the weight of young children. This memoir is now being published by the *Union Médicale*, from which I make a few extracts to show the results which Dr. Bouchaud obtained at the "Maternité." The child is weighed at the moment of its birth. During the two first days it loses about 100 grammes (one drachm avoirdupois weight is equivalent to 1.7712 gramme) from the evacuation of meconium. From the third to the seventh day, the child regains its original weight, and after the first week, till the end of *the fourth month*, it must daily meet with from twenty to twenty-five grammes increase. After the fifth month, the proportion is smaller, say from ten to fifteen grammes in twenty-four hours. On the day of birth, the child receives from its mother about fifty grammes of food, as the colostrum is not yet abundant. The second day the quantity increases to 150 grammes, and from the fifth day to the end of the *fourth month*, it takes, on an average, from 550 to 750 grammes of milk daily. From the fifth to the ninth month, the quantity becomes from 850 to 950 grammes. The above figures represent the nutrition of a healthy child, and result from a large series of observations. Any variation in the quantity of milk absorbed daily tells at once upon the weight. If the child takes the breast too

often, it has indigestion, diarrhœa, and vomits. The scales immediately indicate a loss. When, on the contrary, it does not receive a sufficient quantity, the passages are rare, the urine becomes scant, and the scales at first shew the nutrition to be at a stand-still, and next mark a decline. Every circumstance, which differs from the usual condition of the child, tells almost immediately. In those instances when a child dies from inanition, M. Bouchaud has remarked the four following periods:

1st. *Period of latency.* The child loses one-tenth of its total weight. In many cases, were the scales not employed, this incipient stage would not be detected.

2nd. *Period of loss of flesh.* The child loses one-sixth of its weight. Here what is most striking is the craving for food it displays.

3rd. *Period of excitement.* The loss of weight varies from one-fifth to one-fourth. The child becomes very thin, cries almost incessantly, the respiratory and circulatory functions, as well as the temperature, are accelerated and augmented.

4th. *Period of lethargy.* The child loses one-third of its weight. Little by little all the functions become less active, a state of lethargy sets in, and is followed by death.

The experiments I have made under M. Monneret's direction have had for subjects adult men and women. Every care has been taken to render the results trustworthy, and for this purpose great attention is paid to the condition of the scales, and when occasion requires, the patient is weighed several times daily. A peculiarity which strikes at once, is the readiness with which different causes affect the weight even in a state of health; much greater, as will be foreseen, is the effect of a diseased condition. I have had occasion to test the influence due to forced marches, to *several successive* nights' intellectual labor, when but four hours were allotted to sleep, and to various similar departures from the ordinary manner of living of a perfectly healthy person; and the curve (similar to those employed in thermometrical investigations), obtained by tracing out the series of weights, presents very remarkable oscillations, whose extent corresponds with the nature and duration of the agent. Whenever this agent ceases to act, and a return to the ordinary

regimen is made, immediately the weight has a tendency to regain its natural standard, which has been previously ascertained. The results obtained thus are still more evident when they are derived from the observation of *disease*. Here, three different chapters, so to speak, present themselves, and a few lines devoted to the consideration of each will illustrate the utility of this means of investigation. Disease is either chronic or acute—whence the two first headings; the third is furnished by therapeutical agencies. Chronic disease offers several periods—for instance, tuberculosis, in which there are three stages. I have numerous observations of pulmonary phthisis, and the conclusion they afford, is that the weight increases, as a rule, during the whole of the first, as well as during a portion of the second period; from this, on to the close of life, the patient loses weight more or less rapidly according to individual and debilitating circumstances. It must not be forgotten that these observations have been made from among the *working class* of a large capital. Such persons on entering a hospital enjoy rest, have a wholesome diet, and attentive treatment, under the influence of which they recover strength, until towards the last half of the second stage, when the disease takes such a hold upon the organism that it is impossible to stop the decline. I know not whether the same result would obtain in private practice, though it appears reasonable to look for even greater success in families whose suffering members are surrounded by every care and comfort. From the system of weights may be drawn another argument in favor of hygeia, which, if it cannot *cure*, can at least, save in exceptional cases, *prolong* the first and *lengthen* the incipient portion of the second stage of tuberculosis.

Acute disease, too, offers distinct stages—for instance, typhoid fever, acute articular rheumatism, and pneumonia, are each divided into two different moments; viz., *the time of consumption* and *the time of reparation*. During the former, the loss in weight is rapid. Seven hundred grammes in twenty-four hours are not uncommon in typhoid fever. (A pound avoirdupois is equal to 453.4148 grammes.) This loss of weight, which is sometimes even more considerable than the figure given above, finds its explanation in the destruction of the organism by the fever, in the absence of repara-

tion as well as in the remedial agents employed. The effects of these last will be mentioned lower. When the disease has exhausted its depressive action, the period of *reparation* sets in, and convalescence may be predicted from seeing the series of weights, even before the general condition of the patient appears to warrant the announcing a speedy improvement. During this period the increase of weight is as remarkable as was the decline during the *time of consumption*—with this difference, however, that the weight requires a greater number of days to regain its primitive condition. This arises from reasons it is easy to understand.

The influence of remedies, too, is clearly defined. To mention two only as examples—tartarized antimony and hydro-therapeutics. The former given as a counter-stimulant, in from five to six grain doses in twenty-four hours, or simply as an emeto-cathartic, is an excellent illustration of the debilitating effect of this substance. Given as an emetic, in cases of bilious disorder for instance, the loss in weight, following the exhibition of two or three grains, is frequently 500 grammes in twenty-four hours. Given as a counter-stimulant, if it is not tolerated, the patient falls off even more rapidly, as happened in a case of pneumonia, where the draught—

℞. Emétique.....0.30 centi-grammes or gr.vj.
Sirop de Parots blancs....30 grammes—

M. Monneret's usual prescription, was ordered to be administered, by spoonfuls, one each hour. The draught caused a great deal of vomiting, and brought on diarrhœa, which lasted all night. The woman had been weighed immediately before taking the first spoonful. Twenty-four hours later she was found to have lost 800 grammes. As the question of the propriety of weighing a patient, with pneumonia or typhoid fever, etc., may be raised, it is well to explain briefly how the operation is performed. Every one who is acquainted with the teaching of Graves, of Dublin, will have remarked what importance he attaches to the comfort the sufferer experiences on being occasionally changed from a heated pillow to a freshly made bed. It is at the moment this change is afforded, that the patient is weighed. The scales, supporting an arm chair, are placed at the bed-side, and the sick person snugly wrapped in a blanket is seated upon the platform. An instant suffices for the

operation, which, when properly conducted, has never given any cause for regret. It is needless to say that the weight of the chair, &c., must be deducted to have the correct figure.

The hydro-therapeutical treatment, when employed in cases of simple hysteria, causes the weight to increase in proportion as the hysterical symptoms lessen.

From the rough analysis that presides, it will be seen, that the idea of applying a system of weighing to pathological investigations, may, when properly conducted, furnish additional elements for establishing prognosis, and the general rules, deducted from numerous observations, may serve as useful records, wherein will be marked out the different stages of disease, and the effects of varied remedies. Believing that a publication of this kind will be curious, and hoping it may prove instructive, I intend to publish under the auspices of M. Monneret, a monograph, in which the influence of various pathological conditions will be considered in their action upon the weight of the human body. T. L.

Remarkable Case of Lithopœdion.—Treatment of Necrosis, of Fractured Neck of Femur and of Varicose Veins.—Curious Case of Living Monstrosity.

London, February, 1867.

A most curious case of extra uterine gestation, came under my notice a short time since. It is almost, if not quite, unique. A lady, 43 years ago, had all the symptoms of an extra uterine fœtation, and since that time has been under the watchful care of two generations of medical practitioners, father and son.

A tumour remained distinguishable in the abdomen, but did not cause any serious inconvenience. I believe she bore no children afterwards, but was quite regular at the catamenial periods. The fœtus appears full grown; and being inclosed in dense, thick, partly calcified membranes, has, at first sight, the appearance of an irregularly rounded stone. But upon further examination the position of the limbs and the locality of the features can be readily made out. It is completely enveloped in a membrane, which is extremely

hard, and studded with numerous miliary points of earthy deposit. This has been removed from part of the head, and a second membrane exposed, with a thick layer of sebacious matter between.—Inside this second membrane, is a quantity of hair upon the scalp, very loosely attached to the skin. The latter has retained its normal character and appearance, in a most remarkable manner, and the bones present also a healthy natural look.

It is strange that a mass, such as this, should not have caused more inconvenience or disturbance than it did; but stranger still, that after remaining in the abdomen for such a length of time, its parts should present so little evidence of degeneration, for, be it observed, the "lithopœdion," at the time of its extraction, was no less than forty-three years old.

It was not encysted, but lay loose in the pelvis, but it was, as I previously said, completely enclosed in its own membranes. The placenta remains attached, and calcified on the surface.

A novelty in the treatment of necrosis, has been introduced by Sir Wm. Fergusson. The usual practice, of course, is doing nothing but watch the case until the dead bone is separated from the living, and then to cut down and extract it. But this, as every practical surgeon knows, is often a very tedious and difficult proceeding, chiefly on account of the large mass of new bone with which the sequestrum becomes overlaid and almost completely encased. The new plan is, as soon as ever there are indications of necrosis, to make an incision over the place down to the bone, dividing the periosteum. This incision prevents the external formation of new bone where the periosteum has been divided, so that when the sequestrum is ready for removal, this may be accomplished without difficulty, a passage in the new bone being left free for it. By this means the operation for removing the dead bone becomes much more certain and much less serious.

The treatment of fracture of the neck of the femur, though a common-place thing enough, is of so great importance, that I am tempted to mention the practice of one of our most eminent surgeons, which appears to me to rest on sound principles. Mr. Solly, looking to the age at which this injury generally occurs, and the great pain and disturbance which the common method of frequent

extension by means of the "long outside" splint causes, makes use of the double inclined plane instead. He generally uses it in the form of "Alderman's couch," a most admirable invention of Mr. John Alderman, of Soho, London, and as useful for fractured spine as for the injury now under discussion, since, by means of inclined planes, &c., the patient can be moved into almost any position, while the evacuations can be passed without his being disturbed.—In fact "Alderman's couch" is by far the most clean and comfortable apparatus for these cases, at least in England. Besides this, Mr. Solly fits on a cap splint of leather, which by means of elastic bands, firmly drags down and presses the trochanter major towards its orignal position. By this treatment he avoids the awkward and dangerous bed-sores and sloughs which are so likely to occur in old people, and this mode of treatment is far more agreeable to the patients themselves, while it holds out, I believe, quite as great a prospect of union of the fracture as treatment by the long outside splint.

For the cure of *varicose veins*, Mr. Henry Smith has proposed a modification of the old treatment by ligature, and in a case which Mr. Sydney Jones operated on, in November last, it has proved very successful. In the last number of the *Lancet*, I see another successful case reported by a medical man, who was himself the subject of the operation.

A needle is passed under the vein, and the latter is compressed by means of a wire or silk thread tightened over it, so as to obliterate the vein at the spot. This is done in two places, and between the obliterated points the vein is divided subcutaneously. Complete occlusion of the vein in the whole length operated on, is the result. Care must be taken in this mode of ligaturing veins, that the needle is really passed beneath the vein, not through it. I have seen a case in which a dresser, and a dresser too of more than ordinary care and skill, passed a needle in this way through a large varicose vein, without suspecting that he had wounded it, and twisted the ligature over as usual. Suppurative phlebitis set in, and the man died of pyæmia.

A curious case of monstrosity has been exhibited lately in London, and is now going the round of the hospitals. It is that of a

young man, named Jean Battista dos Santos, a Portuguese, who possesses a third limb hanging from ths perineum, and has the (male) external genital organs also double, and equally developed. Two fully formed penes lie side by side, and each is well formed and large. They are simultaneously erected, though he habitually uses the left one, and urine is voided equally by each when the bladder acts; but the deep connections of the two urethra, and the question of the existence of two bladders cannot be determined, as he refuses to have a catheter passed. Between the two penes hangs a double scrotum, but the testicles, which were only two in number, are said to have ascended into the abdomen when he was ten years old.—The supernumerary limb is apparently articulated by a hinge joint to a short extra bone, which is itself attached to the arch of the pubes by a joint freely moveable in all directions. It is questionable whether this may not be the remains of the neck of the femur which may have been broken during childhood in attempts to place the limb in a more manageable position. The leg is flexed anteriorly on the thigh, and to it is articulated a foot which is evidently double, but in which the two adjoining great toes are coalesced and the inner sides of the feet fused together.

No history is obtainable of monstrosities in the family, nor of any "impressions" or fright during his mother's pregnancy. No great inconvenience is caused by it, for he is remarkably active, and completely hides the deformity in a loose pair of trousers by bandaging it to his right thigh. There is no doubt that the case is one of an attempt at twins, rendered abortive by the partial fusion and incomplete development of one fœtus, so that the man has attached to him the lower extremities and penis of a partly developed twin, and the case is almost parallel with that of a Chinese brought over to England some years ago, who had the nates and lower extremities of another body growing out of his epigastrium.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

Circular of the Washington University, Medical Department, Baltimore Md.

Faculty.—Rev. Thomas E. Bond, M. D., President, and Professor of Materia Medica and Therapeutics; Edward Warren, M. D., (late SurgeonGeneral of North Carolina,) Professor of Principles and Practice of Surgery; Harvey L. Byrd, M. D., (late Surg. C. S. Army,) Professor of Obstetrics and Clinical Medicine; Joseph P. Logan, M. D., (late Surg. C. S. Army,) Professor of Principles and Practice of Medicine; J. William Walls, M. D., (late Surg. C. S. A.,) Professor of Anatomy; Pascal A. Quinan, M. D., Professor of Physiology, Hygeine, and General Pathology; Henry St. George Hopkins, M. D., (late Surg. C. S. A.,) Professor of Diseases of Women and Children; Joseph E. Clagett, M. D., (late Surg. C. S. A.,) Professor of Medical Chemistry and Pharmacy; John N. Monmonier, M. D., (late Surgeon C. S. A.,) Demonstrator of Anatomy and Adjunct to the Professor of Anatomy; Alfred H. Powell, M. D., (late Surg. C. S. A.,) Adjunct to the Professor of Surgery; Chas. M. Morfit, M. D., (late Surg. C. S Navy,) Adjunct to the Professor of the Practice of Medicine; Thurmer H. Wingfield, M. D., (late Surgeon C. S. A.,) Adjunct to the Professor of Physiology; Harvey L. Byrd, M. D., Dean of the Faculty.

This circular announces the establishment of a new Medical School, or rather, the revival of an old one. The Medical Department of Washington College (or University) was originally organized many years ago, and after maintaining, in its conspicuous building in East Baltimore, a protracted but very unequal contest with its formidable rival at the opposite end of the City, migrated to the new Assembly rooms in Lombard street, as if in search of more equal ground. But the change of locality brought no better fortune. Proximity to the rival school seemed rather detrimental than otherwise, and death by inanition was not long delayed.

The gentlemen engaged in the work of resuscitation, undismayed by the ill-success of their predecessors, have bravely launched into the enterprise of "building up a great and prosperous Medical Institution in the Commercial Metropolis of the Southern States;" and they are making a bold stroke for the patronage of these impoverished States. Of the Faculty, consisting of eight Profes-

sors and four adjuncts, all except three, announce themselves to the world as "late Surgeons C. S. Army," and one of the three excepted is "late Surgeon C. S. Navy." In thus decorating the list of Professors with military titles, this new Faculty may claim the merit of originality. Of the Medical Schools now in existence in the States of the late Confederacy, we suppose there is hardly one of which, all, or nearly all, the Professors did not hold positions in the Medical Staff of the Confederate army. Yet these schools have not thought it necessary or becoming in their announcements to trumpet the fact to the world, as constituting any special title to public confidence and favour. Nor is it easy to see what guarantee the fact of having served as "Surgeons during the late civil war" affords of ability to teach the Science of Medicine—more especially such branches as Obstetrics, Diseases of Women and Children, Physiology, and Chemistry. The truth is, this is merely a glittering inducement thrown out to allure the young soldiers of the Confederacy.

It is manifest that the Faculty are determined at all hazards to have a class to listen to their lectures—a class of Southern Students. To this end they make a bid exceeding in ostentatious liberality any hitherto recorded in the history of collegiate electioneering. They propose to admit a *beneficiary* "from each Congressional District in the late slave-holding States;" and, so far as the circular affords any information, they do not even require the said beneficiaries to produce evidence of inability to pay the fees demanded of other students. It is no doubt anticipated with certainty that this proposal will gather together a class at least equal in number to the said Congressional Districts—if not a paying class, at any rate *a class*; and an air of touching philanthropy is given to this unheard of generosity by the declaration that "wounded and disabled soldiers will have precedence over other applicants for this privilege." One might almost suppose this to be an institution founded for charitable purposes, if the table of *fees* did not immediately follow the "beneficiary" clause in the announcement.

It is somewhat worthy of remark, that, while the clinical advantages of Baltimore are highly extolled in general terms, the particular clinical facilities which the Faculty of the Washington University propose to offer to their students, are not specified—a singular omission, if they have really such facilities at their command.

But the point most worthy of note and of censure in this circular is the announcement that two courses of lectures will be delivered annually, so that "students may receive the great advantage of *three*

full courses of lectures within the time usually given to two in other Southern Institutions," while attendance on *only two* of these courses is required for graduation. Thus a student may begin his collegiate attendance in October, and graduate at the close of the Summer course in the following August; or he may begin in April, and receive the degree at the close of the next Winter course, early in March. This may perhaps prove, as the Faculty anticipate, "peculiarly attractive to Southern students," though we hope not. But certain we are that it will not win for the new school the confidence and respect of the judicious and influential members of the Profession in the Southern States, or elsewhere. It proves that this school aims at active success by shortening the term of medical study, and by lessening the difficulties in the way of the attainment of the degree. Such an announcement is especially to be regretted at a time when the conservative voice of the Profession is calling loudly for change in the opposite direction—for an extension of the term of study and the enforcement of a higher standard of attainment, and when a convention of Medical Colleges is shortly to be held, for the purpose of considering the practicability of inaugurating these and other much needed reforms. The retrogade system of the Washington University may serve, with the aid of the "beneficiary" provision to secure a certain degree of present success, but it cannot and ought not to gain for it that high and permanent reputation, and that approval of the Professional Public, which can alone make it "a great and prosperous Medical Institution."

MISCELLANEOUS.

"Non Omnes Eadem mirantur Ament que."—Hor.

Fidelity to the Pharmacopœia.—An authoritative standard, by which shall be regulated the preparation and dispensing of medicines, and whose authority shall be universally recognized within the limits of the national domain—in other words, a National Pharmacopœia—is to Pharmacy a necessity, felt and acknowledged by all its practitioners; its decennial revision also, owing to the inevitable advance of science during such a period, is regarded by all progressive pharmaceutists as equally a necessity.

Guided by no such acknowledged standard of authority, the preparation and dispensing of medicines would be involved in extreme confusion and uncertainty. Like a ship at sea without chart or compass, Pharmacy would drift helplessly on the turbid waters of empiricism, and finally, despite the utmost efforts of its crew, be lost amid the rocks

and breakers of quackish pretension, or the sordidness and selfishness of mere trade and traffic. As the compass is to the mariner, so is the Pharmacopœia to the pharmaceutist, pointing out to him the course by which to steer his pharmaceutical ship, so as safely to guide it into the haven of professional integrity and material prosperity. Itself, indeed, the creature of Pharmacy, it yet in turn aids greatly in its advancement. A standard for the guidance of pharmaceutists themselves, it also furnishes a medium by means of which the physician and pharmaceutist can understand each other in the writing and dispensing of prescriptions. Compiled by able and conservative minds, it is a safe and trustworthy guide, containing within its pages, as it were in a nut-shell, the concentrated results of many previous years of observation and research, thus supplying to all pharmaceutists alike, in a cheap and compact form, the most reliable formulas for the preparation of its various products that science and practical experience have yet devised; fallible of course, like all human productions, it is none the less entitled to full confidence and support. The Pharmacopœia should, however, be regarded as not simply as advisory or recommendatory, but as authoritative, deriving its authority whence all just power is derived—the "consent of the governed"—the great body of pharmaceutists themselves, through their representatives in convention assembled. It is the bounden duty, therefore, of the pharmaceutists to follow its formulas faithfully to the very letter, neither adding thereto nor subtracting therefrom. It is, however, a fact, well known to all who have looked into this matter, that in the preparation of officinal medicines, the pharmacopœia is by no means thus strictly adhered to; that its formulas, in quite a number of instances, are violated, both by acts of omission and acts of commission. For example, the use of troy weight in compounding is, in many cases, ignored entirely, the common or avoirdupois weight being substituted. In the preparation of opium, the drug, instead of being dried, pulverized and sifted, as directed, is employed in its crude state, no allowance being made for its varying state of hydration. In the preparations of cinchona, other and cheaper varieties of bark than the officinal are used; and in the comp. tincture the saffron of the Pharmacopœia is substituted by what is known as American saffron, an entirely different article. The officinal comp. spirit of ether, or Hoffman's anodyne, is so seldom met with that it may be considered a myth, its place having been usurped by a commercial preparation, bearing little resemblance to it except in name. The spirit of nitrous ether, or sweet spirit of nitre is habitually sold of different degrees of strength, and the strength of the various simple spirits of peppermint, camphor, &c., is also habitually reduced below the Pharmacopœial standard. The comp. extract of colocynth, as usually met with, is a notoriously inferior preparation, a sad commentary on the danger of swerving from the strait and narrow path of duty. Seidlitz powders and solution of citrate of magnesia, articles of extensive sale, are oftener made by private than by officinal formulæ; and the same may be said of a number of other preparations which it is not necessary to enumerate.

Now, it may be thought by some that these deviations from the

Pharmacopœia, with, perhaps, one or two exceptions, are not very serious, and that the character of officinal medicine is, on the whole, pretty well up to Pharmacopœial requirement; it should be remembered, however, "that large oaks from little acorns grow," and that any practice short of strict adherence to the Pharmacopœia must, in a great measure, defeat one of the main objects sought to be accomplished by it, viz, greater uniformity in the quality and strength of drugs and medicinal preparations throughout the country. This loose following of the Pharmacopœia is, of course, not universal, but it is quite too prevalent for the honor and good name of the profession. It is, moreover, a source, at times, of considerable annoyance in our dealings with the public. A customer having paid more for the same article, apparently, at one place than another, concludes that he has been overcharged and "won't trade there any more," and, doubtless, a desire to conciliate the favor of customers in this regard, so as to secure their patronage, has been the main cause of this cheapening of officinal medicines. But surely any departure from the Pharmacopœial standard of quality and strength, in order to accommodate the pecuniary notions of customers, cannot be justified on any correct principle of morality, or even of sound business policy, and must, moreover, be regarded as disreputable and injurious to the best interests of Pharmacy. There seems to be even a tinge of dishonesty about the practice, for to sell under an officinal title what is not an officinal preparation can hardly be consistent with any very strict principles of honest dealings. Now, Hoffman's anodyne is not Hoffman's anodyne, nor is laudanum laudanum, nor essence of peppermint even essence of peppermint, unless conforming in quality and strength to the requirements of the Pharmacopœia, to whose terms an exact and definite meaning is attached. Since the last revision of the Pharmacopœia, alcohol has increased so enormously in price that its economical use has become a matter of prime importance to the pharmaceutist, and various ways and methods of saving it begin to be suggested, as, for example, a modification of the formula for tincture of opium, so that its alcoholic strength shall be only half what it is at present—suggested by George A. Gross, in the July number of the Journal of Pharmacy. Now, however, desirable this or similar modifications of other formulas might be in a pecuniary point of view it must be borne in mind that they cannot, with any proper regard for Pharmacopœial authority, be adopted on private account, but must await the action of the Committee of Revision, which alone possesses the requisite authority to change an officinal formula. In the mean time, it is to be hoped the integrity of the Pharmacopœia may be maintained, and that, instead of suffering further violation, its formulas may be more than ever strictly adhered to. "The cruel war is over," and our thoughts can now run in peaceful channels; faith in greenbacks rests on the solid rock of the nation's stability; high prices have lost their terror, and become to us "as familiar as household words." The present, therefore, presents a favorable opportunity to cast aside those cheap abominations and subterfuges, which are an insult to the Pharmacopœia and a blot upon

Pharmacy's fair name in the eyes of all conscientious practitioners. Let it be done.—*Proc. Am. Ph. Ass.*

Successful Removal of a large Bronchocele.—Dr. Wm. Warren Greene records (*Medical Record*, Dec. 1, 1866) a case of this. The patient was a female 45 years of age, with an enlargement of the right lobe of the thyroid gland, which first appeared twenty-six years before, but had not given her any trouble until within the last eighteen months, during which time it had rapidly increased to its present size. "Its dimensions were now such that the common carotid was crowded behind the posterior edge of the sterno-mastoid muscle, where its pulsations were distinctly felt, and the trachea was pressed firmly to the left side. So great was the pressure upon these organs and the œsophagus that any attempt to swallow or talk gave her terrible spasms of dyspnœa. She was unable to lie down, and required constant watching during her broken sleep, lest she should die of suffocation. She suffered very much from headache and giddiness, and could not stoop without losing her consciousness. All these symptoms had been for two months rapidly increasing in intensity and for two weeks almost a daily aggravation had been noticeable." * * * * *

"The patient was already aware of her imminent danger, and her only question was as to the *possibility* of relief. I told her in all probability the removal of the growth would be found impracticable; and that even if she survived the operation, which was not likely, the chances were a hundred to one that she would die of secondary affections; but still there was a bare possibility of success, and that while I would by no means advise an operation, yet if she, being fully aware of all the facts, insisted upon taking this desperate chance, I would undertake the removal of the tumour. I was happy to have my own views as to the propriety of this advice endorsed by Dr. Storer. She immediately decided upon its being done, and at once. Accordingly, in the presence and with the assistance of Prof. H. R. Storer, Dr. F. K. Paddock, and several students, I made the operation in the following manner: The patient, being etherized, was placed in the ordinary position for ligation of the carotid, and a single straight incision was made over the tumor, extending from the inferior maxilla to the clavicle. The anterior external jugular vein, which ran close by the line of the incision, was not injured. The sterno-mastoid, which was spread over the mass like a thin ribbon, and the several fasciæ, were successively divided upon a grooved director, and the areolar tissue with the knife and fingers, the handle of the scalpel being employed much more freely than the blade. On raising upon the director the little thin layer of fascia immediately investing the tumour, several veins were wounded and bled profusely; this was controlled by the fingers of an assistant, and the delicate envelope carefully reflected from the gland; but although this was done with the utmost caution and gentleness, several other veins were ruptured. I now found that the entire growth was completely covered with a network of these vessels; and so thin and tender were their walls that the forceps tore and the ligature cut their

coats; and now, although the blade of the knife had not touched the surface of the tumour, so many of these veins were opened that, in spite of all the pressure that could be made, the hæmorrhage was fearful. I now rapidly separated the areolar attachments, and in a few seconds was at the pedicle, which I found containing three large arteries, whose pulsations were very distinct, and which were my guides for dividing the pedicle into three parts, which I also accomplished with the fingers. I immediately tied each third with a ligature composed of eighteen strands of saddler's silk, *saturated* with wax and *loosely twisted*. As I drew the last cord all hæmorrhage instantly ceased. The pedicle was carefully divided close to the goitre, and it removed. During the dissection, I found at one point the tumour quite firmly adherent to the sheath of the vessels; and, while separating it, a gush of venous blood indicated the rupture of a large vessel. The finger of an assistant controlled it until the ablation of the bronchocele, when examination proved the internal jugular to be wounded. This was tied with a ligature of three strands of silk loosely twisted; no other vessels needed interference. The entire operation occupied twenty-two minutes.

"After carefully sponging the wound and allowing the surface to glaze somewhat, the edges were united by interrupted sutures, water-dressing applied, and she placed in bed. The extremities were cool, and pulse feeble but regular, and less than ninety per minute. She reäcted nicely, and passed a more comfortable night than she had for weeks. The after-treatment consisted in perfect quiet, water-dressings when agreeable, anodynes *pro re nata*; the exhibition of muriated tincture of iron, twenty drops every four hours, and as much rice broth, gruel, and milk as she would take at regular intervals. For several days there was considerable irritation of the œsophagus and trachea, but not enough to interfere seriously with deglutition or respiration. This passed away, and she recovered without a bad symptom. The last ligature came away on the twenty-sixth day; in another week the wound was entirely healed, and she is now in perfect health and restored to a happy family."

Sugar as an Article of Diet.—Dutrone calls sugar the "most perfect alimentary substance in nature."

Dr. Rush says it affords the greatest quantity of nourishment in a given quantity of matter to any subject in nature.

Sir John Pringle tells us that the plague has never been known to visit any country where sugar composes a material part of the diet of the inhabitants.

Dr. Cullen is of the opinion that the frequency of malignant fevers of all kinds has been lessened by the use of sugar.

The celebrated Tronchina recommends *eau sucre* (sweetened water) for almost every malady.

Dr. Fothergill was very anxious that the price of sugar should be so far reduced as to make it accessible to the common people.

Dr. Franklin had taken large quantities of blackberry jam for relief

from pain of the stone, but discovered at length that the sanitary property resided wholly in the sugar.

Sugar has been found to be an antidote for the poison of verdigris, if taken speedily and in abundance.

It has been said that sugar injures the teeth, but this opinion does not deserve a serious reflection.—*Vide Am. Phil. Trans.* vol. iii.

The Cochin Chinese consume a great quantity of sugar; they eat it with rice, which is the ordinary breakfast of the people of all ages and stations, and there is but little else to be obtained in all the inns of the country but rice and sugar. The Cochin Chinese not only preserve in sugar all their fruits but even the greater part of their leguminous vegetables, gourds, cucumbers, radishes, artichokes, the grain of the lotus, and the fleshy leaves of the aloe. They fancy nothing is so nourishing as sugar. The body-guard of the king, selected for the purpose of pomp and show, are allowed a sum of money with which they must buy sugar and sugar canes, and they are compelled by law to eat a certain quantity daily. This is to promote their embonpoint and good looks, and they are honoured by a near approach to the person of the king, and they certainly present a handsome appearance, being actually fattened, sleek and plump by sugar.

The plentiful use of sugar is one of the best preventives of the diseases produced by worms. Nature seems to have implanted a love for this aliment in children, as if it were on purpose to defend them from these diseases.

Sorghum syrup is consumed by many families in the West in prodigious quantities. It is a home product, comparatively inexpensive, takes the place of butter and fat, children are fond of it, and no restriction is imposed upon its use. Probably a larger quantity of sugar, in the shape of sorghum syrup, is consumed in families where it is made on the farm and used freely by all the members, than was ever before used by as large a number of persons in any part, or in any age of the world. And yet we have never heard in any single instance, a suspicion expressed that its use was attended with any injurious effects. On the other hand, it is quite common to hear that its free and abundant use in families has been attended with improved average health, particularly among children.—*Sorgho Journal.*

I may add that some six years ago, about one hundred Chinamen were employed at one of our iron foundries, on the Cumberland River, below Nashville; they lived and laboured most efficiently on the sole diet of *molasses* and boiled rice.—P. F. E.—(*Nashville Jour. of Med. and Surgery.*)

The Permanganate of Potash in the Treatment of Carbuncle. The beneficial effects accruing from the local use of permanganate of potash in the treatment of sloughing ulcers, phlegmonous erysipelas, and hospital gangrene, having been most thoroughly tested and proved during the last year of the war, in army hospital life, it occurred to me that its peculiar remedial qualities would alike prove successful in that most painful and distressing lesion, carbuncle, originating, as it

also does, from a depressed vitality, and a morbific condition of the blood. The most satisfactory and encouraging results have been obtained in the only cases in which I have had an opportunity to employ it.

Mrs. R., æt. about 60 years, was visited, during the absence from town of her family physician, and found suffering terribly from a carbuncle located upon the left shoulder-blade, just above the spine of the scapula, and occupying the supra-spinous fossa. Loss of sleep, constant pain, and naturally nervous temperament combined, induced a mental disturbance almost amounting to delirium. The tumor was in its sixth day, with all the general accompaniments, of the size of a hen's egg, tumid, tense, and shining. A free crucial incision had been made two days before, but with no relief; dense areolar tissue, puffy granulations, and sanious oozings crowded the track of the knife, with no appearance of separation or healthy action. The pulse was quick and compressible, 110 beats in the minute; countenance anxious and expressive of great pain; bowels regular. A strong solution of the permanganate of potash was immediately applied with a brush, and a dressing saturated with it, covered with oil silk, placed upon the shoulder. Anodynes, beef-tea, milk-punch, tincture of the chloride of iron, and quinia were administered.

The same evening, the patient was again seen, and expressed herself as feeling much relieved; pulse 98, and gaining in volume and elasticity. The next morning, the dressing was removed, and already, although but twenty-five hours had elapsed, true pus had begun to form, the intense pain had subsided, and the patient, to use her own language, declared it a "miracle;" the pain had vanished, the fever was gone; she had slept well, and felt some appetite for food. A few days longer the potash was continued; the slough separated, and the wound healed in the short space of one week.

Mr. C., æt. 50 years, shoemaker; was visited July 30th, 1866. Had been sick three days, was found suffering intensely from a carbuncle, situated upon the abdomen just below the umbilicus, of the size of a large walnut, and involving the surrounding structures in an erysipelatous inflammation. Bowels constipated; high fever: pulse 120; heavy breath; tongue furred; anxious countenance; great restlessness and general uneasiness characterized his principal symptoms. Hop and laudanum poultices had been applied, but he had been gradually growing worse, and approaching the condition described, the tumonr increasing daily, the parts becoming more dense, and at last an ichorous pus exuded from several small openings. Mild purgation, after which supporting and stimulant treatment was instituted. A slight incision was made, and the permanganate applied, as in the previous case, the dressings being removed once in twenty-four hours. This case was seen seven days successively; the 13th of August he returned to his work, the severity of the suffering having been arrested after the first application.

Mrs. A., æt. about 49 years, having suffered a few days from a supposed furuncle, and the pain becoming intolerable, called in medical

aid. There was found upon the inner face of the left thigh just below the nates, a well-marked, though small, carbuncle; a very slight incision was made and the potash dressing used. No constitutional treatment at all was inaugurated; in three days all signs of carbuncle had disappeared, and the line of incision was healing nicely.

The results in this case were mutually gratifying, from the fact that about six years ago the patient suffered from a series of carbuncles, appearing in succession, along the spinal column, from the back of the neck to the region of the lumbar vertebræ, and, lasting all through the winter months, her dread and fear of similar suffering were very great. The permanganate of potash has been eminently successful with me in the treatment of chronic ulcers. The following case, of many years' duration, and which had resisted all efforts, yielded to the remedial properties of this preparation.

Arthur M., tavernkeeper, æt. 45 years, had a chronic indurated ulcer, of sixteen years' standing, extending over the superior face of the right leg, about four inches below the tubercle of the tibia, and spreading backward on both sides to the malleoli, covering a surface of about twenty-eight square inches, deep and burrowing in some localities, and in others merely superficial; the whole leg and foot were much swollen and anasarcous, the toes merely protruding from a shapeless mass of flesh closely resembling the foot of a young elephant. An ichorous discharge of a horribly offensive character, together with filthy dressings, augmented the destruction of the surrounding parts.

The advice of an eminent surgeon had been secured a few weeks previously, to the effect that but one alternative remained, amputation; and, indeed, all appearances favoured such a decision. Proper abstinence, tincture of iron, and good diet were directed. The local use of a strong solution of the permanganate of potash and judicious bandaging have already done so much for this case that, at the date of writing, the tenth application of the potash, six square inches, will more than cover the small amount of ulceration remaining, so rapid has been the healing process and the formation of firm, healthy tissue; and, in a few days more, we confidently prognosticate a complete cure.—*Amer. Med. Jour. Sciences.*

Clitoridectomy.—I must beg leave to state my opinions as briefly as possible, in the belief that my former position as a teacher in the largest medical school in London not only justifies my doing so, but renders it an act of duty.

1. Having for the past twenty-five years seen more of the diseases of children and young persons of both sexes than most members of my Profession, and as much of most of the diseases of women at all ages, I believe that masturbation is much rarer in girls and women than in our own sex.

2. I believe the injurious *physical* effects of habitual masturbation to be the same as those of excessive sexual indulgence, and no other. The special *physical* harm done by masturbation I believe to be due

to the fact that it can be indulged in at a much earlier age than sexual intercourse, and can be practiced with much greater frequency.

3. But, nevertheless, I have not in the whole of my practice seen convulsions, epilepsy, or idiocy *induced* by masturbation in any child of either sex; a statement, I scarcely need add, widely different from the denial that epileptics or idiots may, and not seldom do, masturbate. Neither have I seen any instance in which hysteria, epilepsy, or insanity in women after puberty was *due* to masturbation as its efficient cause.

4. I *know*, and I can appeal with confidence to the knowledge of many members of the medical Profession, that of the alleged cures of hysteria, epilepsy, insanity, and other nervous diseases of women by excision of the clitoris, a very large number were not permanent. I further *know* that in several instances, one of which, seen by me in consultation with Mr. Paget, is related at p. 663 of my lectures, very mischievous results have followed it.

5. Although the moral questions involved in the practice of masturbation are not strictly within the province of medicine, yet, as the quotation from my lectures, taken apart from the context, may appear to imply that I believe the mind could be restored to its purity by any means which our art might furnish, I must add that I hold no such opinion.

We too often see the man in whom desire has outlived the power of performance, for the dream to be possible that there is any necessary connexion between infirmity of body and purity of mind; and most of your readers do not need to be reminded that the judgment of the Church, as well as the sympathy of all, are with the struggle and self-conquest of St. Jerome rather than with the voluntary mutilation of Origen.

6. Whilst I believe the removal of the clitoris in cases of hysteria, epilepsy, insanity, and other nervous diseases of women to be a proceeding theoretically based on erroneous physiology, and practically followed by no such results as to warrant its frequent performance, I regard it as completely unjustifiable when done for the alleged relief of dysuria or of painful defecation, for the cure of amenorrhœa, or for the mitigation of the symptoms of uterine misplacement or disease.

7. I consider that public attempts to excite the attention of non-medical persons, and especially of women, to the subject of self-abuse in the female sex are likely to injure society, and to bring discredit on the Medical Profession. I think that such attempts are the more objectionable, when associated with a reference to some peculiar mode of treatment and alleged cure practiced by one individual.

8. I believe that few members of the Medical Profession will dissent from the opinion that the removal of the clitoris with the cognisance of the patient and her friends, without full explanation of the nature of the proceeding, and without the concurrence of some other practitioner selected by the patient or her friends, is in the highest degree improper, and calls for the strongest reprobation.—Dr. West.—*Br. Med. Jour.*

Wounds of the Knee-Joint.—In October, 1861, C. K., æt. about 11 years, was accidentally thrown beneath the wheels of a city railroad-car, nearly opposite my office. He was removed from the place of the accident to Dr. M.'s office, where I first saw him, ten or fifteen minutes after the occurence. He was pale, shivering, and much exhausted from pain and loss of blood. The wounds, which were numerous and extensive were examined; the hæmorrhage checked by the immediate application of cold water; some brandy and tr. opii administered; the wounds temporarily dressed; and the patient put into a carriage and taken to his place of residence, where the saturated applications were removed and suitable dressings applied.

Both limbs were terribly lacerated. There was a wound on the outer side of the right foot, above the malleolus, extending downwards and backward to the bottom of the foot, exposing the *fibula* and *os calcis;* a similar and counter one, extending into the hollow of the foot; and one on each side above the knee, diagonally across the lower third of the thigh. The left knee had suffered considerably. The integuments were lacerated extensively, and the capsular ligament of the joint on the inside was divided to the extent of an inch and a half, admitting the finger to pass freely within the joint. A probe was also passed through and to the opposite side of the joint, in presence of Dr. Meux. There were two other wounds above the knee, and similar to those described on the right limb, only deeper and more extensive. No large nerves nor blood-vessels were divided. To save the limb, even at the risk of deformity, was considered important and determined upon. To prevent inflammation and anchylosis was exceedingly desirable, but equally doubtful. The soft parts were brought together and secured by sutures, the wounds dressed, and the limb put in an easy position, semiflexed. The patient was nervous and irritable, almost beyond description, and obstinately refused the administration of chloroform. Notwithstanding the system reacted slowly, the wounds granulated and healed kindly, and in less than six weeks Charley was on his feet again, without anchylosis of the joint, or any deformity of the limbs; and at the end of a few more weeks, the use of the knee joint was free and perfect as before the accident.

The impression, or belief, is to some extent prevalent, that the admission of atmospheric air within the capsular ligament of a joint, is productive of inflammation, and consequently destructive to the mechanism of the joint..—W. B. D.—*N. O. Med. and Surg. Jour.*

How Long Will Strychnine Resist the Action of Putrefactive Decay?—In order to obtain an answer to this important question, Cloetta introduced one grain of nitrate of strychnine in solution into each of several human stomachs, which he then placed separately in a vessel, closing the latter and burying it at the depth of three feet in the earth. After different periods of inhumation the stomachs were removed and examined. The pasty mass produced from the contents, and in part from the walls of the stomach,

was acidified with acetic acid. Two ounces of alcohol, and then twelve ounces of water were added. The mixture was allowed to stand for twenty-four hours, with frequent shaking. The remaining portions of the walls of the stomach were finely cut up, and extracted with water containing acetic acid. Both fluids were united and filtered, and the alcohol was removed from the filtrate by gentle warming on a water bath. The liquid was evaporated to dryness, saturated with ammonia, and the residue heated with chloroform to dissolve out the strychnine. The residue obtained on evaporating the chloroform was tested by the appropriate means for the presence of strychnine.

The first stomach was disinterred at the end of three months, the second after six months, and third after eleven and a half months. In all strychnine was found. Hence it results that one grain of strychnine mixed with the contents of a stomach may still be detected after at least eleven and a half months, interment. It is remarkable that a substance which is so easily and rapidly changed in a living body should so long resist the influence of the process of putrefaction.—*Fresenious—Zeitschrifts für anal. Chem.*

Legal Recognition of Prostitution.—The New York Legislature is seriously engaged in considering the question of recognizing the evil of prostitution, and devising plans for throwing about this great social vice some uniform and salutary restrictions. It is stated that in the city of New York there are more than two thousand houses of ill-fame of all grades, and twenty-five hundred courtesans! It is every where the vexed question of public morals. It has been so for ages; we may presume it will ever be so, until the natures of men become converted to new ways. The most earnest efforts of law-makers, and philanthropists, and christians, have alike failed to make any progress in the eradication of this evil. Homes for the penitent do not meet the question, and in the meantime these haunts of vice continue to send forth their perennial streams of pollution, carrying, not mere death, but disease and misery to the whole social fabric—the guilty and innocent suffering alike the penalty of transgression.

Mr. Assemblyman Jacobs proposes to ignore the question of total suppression, and address himself to the only practical one of restraint. We find the following summary of his bill in a recent issue of *The N. Y. Med. Record:* "He proposes to invest the police with power to demand that every girl whom they may see entering a known house of ill-fame, shall exhibit a paper showing that she has been duly recorded as a public prostitute, and in the event of her inability to produce such paper, she is escorted to the Central

Office, and there given the option of registering herself a public prostitute, or of seeking an honest livelihood in the respectable walks of life. This at once appeals to any lingering feeling of delicacy, and it is to be hoped that not a few of these unfortunates will hesitate to thus announce their determination to pursue a loathsome trade. The bill further provides for the registration of houses of ill-fame and of assignation houses; as also for the enforcing of safeguards against infection. This police supervision of this moral plague, has long been recognized and required in Paris; it was so to some extent in New Orleans during the war; and during the military occupancy of Nashville, there was, to some extent, a medical police supervision of prostitutes which is reported to have had favourable results, so far as controlling the matter of infection.

Good people are horror-stricken at these propositions, and we note some very severe reflections upon the subject by some excellent religious newspapers; but some of the purest medical men the world knows have carefully studied this matter, and have deliberately concluded that the cause of humanity requires some well devised system of legislation enforcing a strict medical and police supervision of the whole matter.

Gastric Ulcer Treated by Hypodermic Injections.—Dr. George Willis narrates an interesting case of this disease, in which the patient being given over to die, hypodermic injection of morphia was resorted to with a view to euthanasia, rather than with any hope of cure; but, behold, when the pain was relieved and some sleep induced, he rallied a little, and at the end of a week, being nourished meantime by enemata, was able to retain small portions of liquid food (at first only milk and lime water), if preceded by the morphia injection, which was of the strength of three *grains of the salt*. This treatment was continued daily for a year, at the end of which time he began the use of beef tea and mutton broth, but pain and vomiting invariably returned, if by any chance the injection was delayed. The strength of the injection was then reduced to two grains. This was continued for another year, during which he gradually improved, and then was reduced to one grain, at which strength it was kept for six months, and then discontinued. On a few occasions atropine was substituted for the morphia, but without relief to the pain—a quarter of a grain at one time producing most alarming symptoms. The patient recovered, and is now in perfect health, having gained nearly fifty pounds in weight.—*Medical Times and Gazette.*

A Professional Code of Ethics.—1. In cases not seriously ill,

make frequent visits, and tell the family, and whole neighbourhood, that the patient had *three* fevers, and was in great danger.

2. In cases where life is in danger, discourage the patient by words and action; and finally abandon the case as incurable.

3. All cases annoying, difficult and protracted, permit no consultation.

4. In "operations," "accidents," and "interesting cases," publish in the newspapers, instead of medical journals,—mentioning the name of the patient, and *all* the physicians present.

5. In consultations, try to be at the house first, and examine the patient and medicines, before the arrival of the family Physician. Give the family to understand by significant wagging of the head, that you differ in opinion decidedly. Assume the attitude of a croaking bull-frog, when the brother physician enters the room, and begin to argue and lecture in the hearing of all present. Mention that of one hundred and thirty-nine cases treated by you, but three proved fatal; that these were first in the care of other Physicians.

6. When unavoidable accidents occur—such as happen to all—in operations, by chloroform or otherwise, lose no time in instituting meddling inquiries, and babble the little or nothing you know of the facts, to all the loafers and gaping crowds you meet at the street corners or highways, not forgetting the old women.

7. Have no regard for the reputation of the attending Physician, and try to impair the confidence reposed in him in every way possible.

8. Do not neglect to pass frequently by the house where other Physicians are attending members of the family, and make inquiries of any you meet near the premises concerning the sick.

9. Never offer, or resign a patient to the attending or family Physician, when called in on an emergency, or during the absence of the attendant.

10. In the medical, as in other professions, controversies and contentions arise, the nature of which make known to the public without delay.

11. Avoid all social intercourse with medical brethren who converse on medical topics.

12. Associate with such only as neglect their professional affairs and turn horse-jockeys, or keep stallions.

13. Charge one-half the rates of other practitioners, and collect no bills.

14. Article 6 of this code is not enforced, when the parties are Physicians about *twenty* years behind the uge, owing to being born stupid, or being too *indolent* to study.—*Med. and Surg. Reporter.*

Colliquative Sweating.—M. Vignard of Nantes recommends the following decoction of sage as a remedy for profuse sweating. Take of chopped sage leaves, a large pinch; of water, six fluid-ounces. Boil the sage for a minute or two in the water; let it stand to cool, then filter and sweeten to taste. The perspiration ceased whenever the decoction was taken, but reäppeared when it was omitted. M. Vignard suggests the use of this remedy in the colliquative sweating of phthisis.—*Journal de Mèdcine de Nantes.*

Soluble Glass Bandages.—M. Velpeau calls attention to the bandages of silicate of potash or soluble glass, which advantageously replaces albumen, starch, dextrin, papier maché, plaster of Paris, etc. The most valuable property of the bandage of soluble glass in that of promptly drying in two or three hours, and of easily becoming soft with water.

What is the Myograph.—The myograph is a novel instrument, which has been devised by M. Marey, the celebrated inventor of the sphygmograph, for determining the vibrations of the muscular fibres. It is employed only in connection with the muscles of animal life, and it records graphically the the vibrations of these, just as the sphygmograph records pulsations. The vibrations of the fibres of muscles have already been determined by Haughton, Helmholtz, and others; but M. Marey has gone further, and, by introducing the method of autographic registration, has shown the exact nature of the influence of fatigue and disease (muscular and nervous), over these vibrations. The myograph consists of a sort of forceps, which embrace the limb experimented on, and one of whose arms rests upon the muscle, whose vibrations are to be determined. This is the only movable limb of the forceps, and it is, therefore, thrown into vibrations during the contraction of the muscle. The forceps are connected with the wire of a galvanic battery, and by this means the muscle is at pleasure thrown into action. The remainder of the myograph is upon the plan of the sphygmograph, and comprises a system of levers and drums, on which the register of the vibrations is traced.

Stricture of the Urethra.—Dr. Aspary, of London, describes his new instrument as combining the safety of the gradual method with the quickness of action and speedy cure of the rapid dilatation principle. A No. 1 catheter is first passed into the bladder, and serves as a guide to a dilator which is passed over it to the stricture. The dilator terminates in a conical screw which is screwed through the northern portion of the urethra. The dilator

is then withdrawn, and a bougie, a little smaller than the dilator, passed in its stead over the guide, and allowed to remain. In many cases, however, the bougie is not required.

Indolent Ulcers.—The most satisfactory mode of treatment for an indolent ulcer, around which the tissues are indurated and the surface black, with considerable congestion, is to fill the excavation with a powder composed of—as a whole—ten parts: seven of Act. Plumbi, one of Pulv. Opium, two of Calomel. Morphine may be substituted for Opium. This, while it excites proper action to the parts, relieves pain, unloads the vessels, and will sometimes change the colour of surrounding parts in twenty-four hours, to a bright red. In varicose ulcers the lead has a good effect upon the dilated vessels. Apply adhesive plaster to the limb that the pressure may aid in relieving congestion. The straps will depress elevated edges. The ulcer will heal kindly.—*Cincinnati Lancet and Observer.*

Dislocation of the Patella.—To many practical Surgeons it might appear to be a work of supererogation to offer an original communication on the subject of so unimportant a dislocation as that of the patella; but the vast strides which have been made in manual operative surgery, will warrant quite a different conclusion. It has been but a few years since the reduction of luxation of the hip-joint, by flexion and manipulation, was discovered; a fact first positively established by Dr. W. W. Reid, of Rochester, much to his credit as an original and acute observer, although his plan might, occasionally, fail to accomplish reduction of the ileo femoral joint. In case of such failure, the Surgeon can fall back to the more severe measures, the pullies and block, formerly in use in this dislocation. Dr. Reid has undoubtedly conferred a great boon on the Profession, and is worthy of our gratitude.

The method which I have for a number of years adopted for the reduction of a dislocated patella, differs somewhat from the modes laid down in surgical works. In presenting my mode to the consideration or criticism of Surgeons, it is with due deference to numerous authors I have had the pleasure of perusing.

In a case of dislocation of the patella, the patient should be seated in a common chair; place a second chair, containing a pillow, at sufficient distance from him to allow the distal portion of the leg and heel to rest upon. I then either stand, or sit (as most convenient), on the outside of the leg; take hold of the thigh with one hand, holding it steady; gently grasp the patella with the other. Being ready for reduction, I now draw the attention of the patient

to something foreign to the proposed proceeding; by this manœuvre the extensor muscles become relaxed, as far as their strained position will allow; then, by giving a sudden, downward pressure, with proper manipulation of the patella, it glides into its natural position with unwonted facility, and the least possible pain to the patient.

A few remarks on this subject will suffice. It is quite patent to every Surgeon, that the extensors of the leg, all of which are attached to the patella, must be relaxed, in order to reduce a luxation of this bone. By the above mode it is replaced with facility and ease; when the thigh is grasped, it can be supported and held steady until you press downwards, the gravity of the limb favours your movement, so much so that the extensors are relaxed to their utmost extent with but little force. If the case should be difficult of adjustment, an anæsthetic can be used, which would materially aid in accomplishing its reduction. I never saw a case that would not yield to the above method. A few trials in other hands will either show its inutility, or confirm its advantages over existing plans. I shall patiently wait for a decision, after a fair trial of its merits by the Profession.—F. L. K.—*Med. and Surg. Reporter.*

Case of Imtermittent Fever in a Child in Utero.—At a recent meeting of the Obstetrical Society, Dr. Hubbard related the following case:

In September, 1846, during the universal prevalence of an epidemic form of malarial fever in Illinois, Mrs. C. was delivered of her second child. She had been for many days the subject of intermittent fever of the tertian type, and had noticed that, on the days of the recurrence of the chill, there was an entire cessation of the motions of the child, which on her "well days" were resumed with their accustomed vigour. The administration of quinine was purposely withheld until after her confinement, on account of its well known effects in causing uterine congestion and inducing premature uterine action.

She was delivered on her "*well day*," and the next day suffered a return of the ague. The child also had a well marked chill, followed by fever. Quinine was administered to the mother, promptly arresting the disease, at the same time apparently arresting it in the child. It has been observed by Physicians practicing in malarious districts that, in seasons of unusual prevalence of intermittent fever, in cases where the mother has lost the disease during the whole or greater part of her pregnancy, that it was not very uncommon for children to be born with enlarged spleens, anasarca of extremities, and other appearances which follow protracted ague.

Sir James Y. Simpson stated, in relation to Dr. Hubbard's interesting case of intra-uterine ague, that the disease was alluded to by Dr. Morton and some of the older authors on medicine. Dr. Russell, the author of a celebrated monograph of the Plague of Aleppo, alludes to some instances of children being born with plague-spots upon them, and has given, in a separate paper, the details of a case of ague in the fœtus. In this instance, the mother had attacks of tertian ague every second day in the last weeks of utero-gestation, and the unborn infant had what were reckoned shakings and rigors on the intermediate days. That these shakings were tertian ague also in the fœtus was proved by the fact that the child, after birth, continued to take them every second day till they were arrested by the use of bark.—*Edinburgh Medical Journal.*

Remarks on the Use of the Thermometer in Diagnosis and Prognosis.—The present stadium of medical history is characterized by the introduction of several instruments for elucidating the phenomena of disease. Of these, the first to be named is the microscope, which has been efficiently applied to investigations of disease only within late years; instruments more recently introduced are the ophthalmoscope, the laryngoscope, and the endoscope; to these we would add the binaural stethoscope, invented by the late Dr. Cammann, which, sooner or later, will supersede all other instruments employed in auscultation. Last, but not least in importance, is the thermometer.

The thermometric phenomena of disease have been studied of late by clinical observers in Germany and Great Britain; the fruits of these studies have been communicated through medical journals, and they have entered somewhat into a few of the recent works on practical medicine. Hitherto, in this country the thermometer has been but little used in medical investigations, owing, probably, to a prudential reserve with regard to novelties. Many, however, are now interested in confirming by personal observation, the correctness of what has been set forth in publications on the other side of the Atlantic. Impressed with a sense of the importance of the thermometric phenomena, as entering into the clinical history of diseases, I propose in this article to give a brief account of some of the applications of the thermometer to diagnosis and prognosis. It is proper to state, at the outset, that my experience in the use of this instrument has extended over only a few months, but the short period in which I have used the thermometer in clinical studies has afforded striking illustrations of its practical value. I will add that I am led to write this article by a desire to enlist an interest wider than now

exists in this new field of observation. The valuable article, of which the above is the preface, is recapitulated in the following propositions :

1. The thermometer is indispensable for obtaining accurate information of the temperature of the body, the perceptions of patients and the sense of heat or coldness communicated to the hand of the Physician being alike fallacious.

2. In the essential fevers and all acute affections, the heat of the body is more or less above the maximum of health ; and the increase of heat, as a rule, persists during the career of the disease. Fevers and acute affections may, therefore, be excluded by the fact of the heat of the body remaining within the limits of health ; and the existence of an essential fever or an acute affection of some kind may be predicated on a persistent increase of heat.

3. A fever is purely malarial, that is, it is not a continued fever, nor is it associated with a continued fever, if, between the exacerbations, the temperature fall nearly or quite to the range of health.

4. The diagnosis of neuropathic affections which simulate inflammations, may be based on the fact of the temperature not being raised.

5. Coma from uræmia may be discriminated from the coma occurring in fevers or dependent on meningitis, by finding the temperature not raised ; and in cases of uræmia, coma and convulsions, intercurrent inflammatory affections may be excluded if the temperature remain normal.

6. In tuberculous affections, when tuberculization is going on, there is more or less increase of heat. In cases of suspected tuberculosis, a normal temperature shows, either that tuberculosis does not exist, or, if existing, that it is not progressive.

7. In cases in which the history and symptoms excite fears of the existence of meningitis, the existence of this disease is not probable if the temperature be not increased ; and, on the other hand, increase of temperature sustains these fears, provided the patient has not an essential fever.

8. The amount of increase of heat, as shown by the thermometer, provided the increase be not transient, is proportionate to the gravity of the disease, and is a criterion of the immediate danger. A persistent temperature of 105° always denotes great severity of disease, and a still higher increase renders it almost certain that the disease will speedily prove fatal.

9. The temperature in the different essential fevers and inflammations is governed by certain laws as regards progressive increase, daily fluctuations, and the rapidity or slowness with which it returns to the normal standard (defervescence) of the time of con-

valescence. Each essential fever or inflammatory affection has its own laws in respect of the points of difference just named; and any notable deviation from these laws, in individual cases, is an unfavourable prognostic. Thus, a decrease of heat, below the normal range may indicate an internal hæmorrhage, and a sudden increase may point to an important complication or the occurrence of an intercurrent affection. Mildness of the disease, and the absence of complications or intercurrent affections may, on the other hand, be predicated on the disease pursuing its regular course as regards temperature.

10. The surest evidence of convalescence from an essential fever, or an acute inflammation, is a return of temperature to the normal standard. If an increase of temperature persist, after apparent convalescence, or, in self-limited affections, after they have reached the end of their career, either morbid conditions pertaining to the disease continue, or some affection has been developed as a sequel of the disease.—A. F.—*N. Y. Medical Journal.*

Coal Oil Lights Improved by Salt.—We have found, by experience, that the light is greatly improved by adding to the oil one fourth its weight of common salt. It makes the light much more brilliant and clear, keeps the wick clean and prevents smoking.—*Exchange.*

Case of Obstinate Vomiting, Connected with the Presence of a Foreign Body in the Uterus.—Dec. 18.—Was called to see Miss C., æt. 22, at 1 A.M. When I arrived, I found she had been suffering from constant vomiting for the last three days, for which she had been treated homœopathically, with the usual result; nothing was retained on the stomach, not even a drop of water or ice. There had been no sleep for the last three nights; in fact, the efforts to vomit never remitted for more than five minutes; nothing, however was brought up except a little water or mucus. Expression of countenance haggard; tongue clean; skin cool; pulse 80, soft and weak; no pain except that caused by vomiting. I learned that the lady had been in ill health for several months, and that she had been treated for uterine disease. Ordered external application of turpentine over the pit of the stomach; chloroform gtt. vj. morph. sulph., gr. 1-4.; to be repeated every hour until the vomiting ceased.

10 A. M.—The first dose of the medicine quieted her, and she slept for a short time. A second dose was given at the end of the first hour, although there was no vomiting, and a third dose an hour afterward. This was rejected, and since then the vomiting

exists in this new field of observation. The valuable article, of which the above is the preface, is recapitulated in the following propositions :

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10. The surest evidence of convalescence from an essential fever, or an acute inflammation, is a return of temperature to the normal standard. If an increase of temperature persist, after apparent convalescence, or, in self-limited affections, after they have reached the end of their career, either morbid conditions pertaining to the disease continue, or some affection has been developed as a sequel of the disease.—A. F.—*N. Y. Medical Journal.*

Coal Oil Lights Improved by Salt.—We have found, by experience, that the light is greatly improved by adding to the oil one fourth its weight of common salt. It makes the light much more brilliant and clear, keeps the wick clean and prevents smoking.—*Exchange.*

Case of Obstinate Vomiting, Connected with the Presence of a Foreign Body in the Uterus.—Dec. 18.—Was called to see Miss C., æt. 22, at 1 A.M. When I arrived, I found she had been suffering from constant vomiting for the last three days, for which she had been treated homœopathically, with the usual result; nothing was retained on the stomach, not even a drop of water or ice. There had been no sleep for the last three nights; in fact, the efforts to vomit never remitted for more than five minutes; nothing, however was brought up except a little water or mucus. Expression of countenance haggard; tongue clean; skin cool; pulse 80, soft and weak; no pain except that caused by vomiting. I learned that the lady had been in ill health for several months, and that she had been treated for uterine disease. Ordered external application of turpentine over the pit of the stomach; chloroform gtt. vj. morph. sulph., gr. 1-4.; to be repeated every hour until the vomiting ceased.

10 A. M.—The first dose of the medicine quieted her, and she slept for a short time. A second dose was given at the end of the first hour, although there was no vomiting, and a third dose an hour afterward. This was rejected, and since then the vomiting

has been as bad as ever. Ordered oxalate cerium, gr. iij., every hour. The mixture with chloroform and morphine to be repeated after four hours. As the bowels had not been moved for three days, I ordered an enema with castor oil and turpentine, to be followed, after its action, by one containing half a drachm of laudanum.

4½ P. M.—Much the same—patient getting weaker. As I was convinced that the vomiting was uterine, and the condition of the patient was such as to cause anxiety, I took an opportunity of inquiring as to the possibility of pregnancy existing, explaining my reasons for so doing. This was indignantly denied. I ordered brandy and soda water; enema with laudanum to be repeated.

19. Symptoms still the same; the laudanum enema had procured hardly any sleep; everything is rejected a few minutes after it is swallowed; patient getting weaker, having retained no food or even water on the stomach for the last four days, during the whole of which time there has not been more than a few minutes' sleep. I learned to-day that the vomiting had come on after she had had something done to the womb, which caused her much pain, and that the surgeon had introduced the speculum after he had once withdrawn it, in order, as he stated, to remove a piece of cotton he had left in the womb. Thinking that the vomiting was kept up by the presence of a foreign body, I made a digital examination to see if I could discover it. I found the neck of the uterus enlarged and inflamed, the orifice patulous, and the body retroverted and flexed; could feel no foreign body. As it was time for menstruation to come on, I did not wash out the uterus, as I otherwise should have done.

20th.—Rather better; had slept about an hour, and vomiting not so constant when lying quite still; but the slightest movement or attempt to speak, or opening of a door, or even being spoken to, brings on vomiting. Pulse 78, weak; skin cool; nothing remarkable on the stomach. I ordered champagne and brandy; carbonate of bismuth.

21st.—Better; slept some two hours during the night. Can take raw brandy, although water she immediately vomits. States that when she feels the vomiting coming on, a tea-spoonful of raw brandy will check it. During the night there was a remission of the vomiting for three or four hours. Is better when lying on her right side; if she turns on her back, vomiting immediately comes on. Is now so weak that her voice is hardly audible. Ordered enemata of brandy and yolk of eggs. Menstruation came on last evening; had sharp, cutting pains at commencement, but was too weak to notice if anything came away in the discharge, which is moderate.

For the next forty-eight hours the patient was kept alive by brandy and champagne, and nutritive enemata. It was not until the 24th that any food was retained on the stomach. At this time she was much prostrated, having been eight days without any food, during the greater part of the time with constant vomiting and loss of sleep. The pulse was 85, small and weak; skin hot and dry, probably from the stimulants.

From this time the patient gradually recovered, although it was three weeks before she had gained sufficient strength to leave her room. Menstruation lasted the usual time, but rather scanty. On making an examination per vaginam, about three weeks after menstruation had ceased, I found a piece of cotton in the vagina, such as used for applying caustic to the interior of the cervex: and I have no doubt but that this, whilst remaining in the uterus, had been the cause of the vomiting.

The above case affords a most striking example of the effect of mechanical irritation of the uterus in producing vomiting, and would tend to show that where pregnancy acts as a cause of vomiting, the vomiting is owing to the mechanical irritation by the fœtus, and not to the changes in the uterine system accompanying pregnancy.

The purely reflex nature of the vomiting in this case is interestingly shown by the causes that would give rise to it: the slightest movement, the opening of a door, even speaking to the patient, would bring on an act of vomiting, just as the same causes would give rise to spasm in tetanus or in poisoning by strychnine.—*Pacific (Cal.) Med. and Surg. Journal.*

Legalization of the Dissection of Human Bodies.—A memorial has been presented to the legislature of the State of Pennsylvania for the passage of a law similar to that some years since enacted by the legislatures of the States of Massachusetts and New York, for the legalization of the dissection of human bodies. The provisions of this law are most reasonable, all abuses are strictly guarded against, and we trust that every member of the Profession in the State, will exert all his influence with the representative from his district to vote for it. The anomaly of rendering Surgeons liable to penalties for malpractice resulting from ignorance, and denying them the only means of acquiring the necessary knowledge, is so absurd that every legislator, on the least reflection, must become convinced that our existing statutes are the remnants of a barbarous age, and that they should now be made to harmonize with the advanced civilization of the present times.

Novel Method of Dealing with Ligatures Applied to Arteries.—Mr. Campbell de Morgan has been adopting, of late, at the Middlesex Hospital, a plan of dealing with ligatures applied to vessels during a cutting operation, which merits notice. When the vessels have been tied, instead of following the usual custom and leaving the ligatures hanging out of the wound, Mr. De Morgan, by means of a needle, passes them through the skin close to where they are tied. They remain quite quiet and come away without the slightest pain or trouble when their work is done. The wound consequently has nothing to irritate it, and enjoys every opportunity of healing by the first intention. The plan leaves the parts as quiet as if acupressure had been applied. There is now in the hospital a case in which Mr. Moore tried the method at Mr. De Morgan's suggestion, on Wednesday week, after removing a breast.—*Lancet.*

Large Growth attached to the left Vocal Cord.—The following is a very important one. It shows the great value of the laryngoscope in diagnosis. This instrument will have an influence on the treatment of laryngeal disease similar to that which the ophthalmoscope has on the treatment of defects of sight due to changes in the deeper parts of the eye. Both have done much good by restraining routine treatment. In the following instance the laryngoscope led to a happy surgical procedure, which, without this instrument, could never have been thought of, even if the diagnosis of a growth in the larnyx could have been made.

For the notes of the case we are indebted to Mr. Wasdale Watson.

Eliza P., aged 31, a stout, healthy-looking woman from Gravesend, was sent to Dr. Morell Mackenzie, in June, 1865, by Mr. John A. Kingdon. She stated that in the winter of 1858-'59 she had had a cough and cold, and that the hoarseness that came on that time passed in a few months into a complete loss of voice; since then she had not been able to speak a word out loud. In 1860 she was an in-patient in a provincial hospital; and there shower-baths were used, but in vain, to restore the voice. In the following year she was admitted into one of the metropolitan hospitals; and here the treatment consisted in blistering the neck, twenty-seven blisters having been applied consecutively; afterwards iodine, mustard poultices, and turpentine stupes were used, and general remedies (quinine, iron, &c.), but all without effect. She further stated that she always now suffered from shortness of breath, and that lately she had had two attacks of great difficulty of breathing, which had lasted for several days. On making a laryngoscopic examination, an irregular lobulated growth about the size of a sparrow's egg was seen to be attached to the entire length of the left vocal cord; it

projected up into the laryngeal cavity and across the glottis. At the patient's second visit Dr. Mackenzie first attempted to seize the growth with his tube-forceps, and on the first trial a large piece was seized and brought away. On several other occasions fragments were removed, but at several visits the attempts to seize the tumour were quite unsuccessful. On account of the distance at which the patient lived, she was not able to attend at all regularly, and long intervals often intervened between her visits. Accordingly, it was not till March 7, 1866, that Dr. Mackenzie succeeded, with a pair of ordinary forceps (opening in the antero-posterior direction) in completely clearing the larnyx. Dr. Pratt was present on this occasion, and made a laryngoscopic examination, both before and after the removal of the last piece. The patient attended twice at the hospital afterwards, and the larnyx was seen to be perfectly healthy. The voice was clear and natural. A portion of the growth was examined by Dr. Andrew Clark, and pronounced to be "an ordinary cauliflower or warty growth.—*Med. Times and Gazette.*

Gonorrhœa in the Male.—Mr. Barwell has for years past treated gonorrhœa as a simple non-specific disease, avoiding copaiba, which, by disordering the stomach and causing loss of appetite, depresses the health, and is apt to increase or lengthen the disease. In case of a first attack, in which inflammation runs high, a purge, hot bathing, and an alkaline medicine, either diuretic or aperient as may be indicated, followed by an injection of sulphate of zinc—two grains to the ounce. Second or subsequent attacks may be treated without such preparation by injection, free action of the bowels being secured, if necessary, by medicine. If the patient apply on the first day of the discharge showing itself, a week may often suffice to check it. More chronic cases may be advantageously treated with tannic acid—three or four grains to the ounce; and, in order that the fluid may remain longer in contact with the mucous membrane, it may be thickened with starch or sugar. Mr. Barwell has not found that orchitis follows the use of injections of the above strength more frequently than it succeeds to gonorrhœa not locally treated; and stricture is certainly a rarer sequela than to a clap allowed to run on for weeks or months. The slight but continuous discharge of a gonorrhœa become chronic is often difficult of cure. Turpentine, either Chian turpentine or Canada balsam, with black or Cayenne pepper, is frequently useful. Tincture of steel and tincture of capsicum often avails. As a pepper, cupebs will have a similar effect; but it is not better, and is more clumsy, than the above-named sorts. The most certain and efficacious treatment is by an ointment containing from three to five, and even to ten,

grains of nitrate of silver to the ounce of lard. A small bougie smeared thickly with the ointment is passed from half an inch to an inch and a half down the urethra, and left there for half a minute or more; and this should be repeated at least every other day. In general, commencing with the mildest ointment, one need not increase the strength beyond five grains to the ounce. In only one very obstinate case was it used ten grains to the ounce; but the patient got well without a bad symptom.—*London Lancet.*

Physiological Effects of Narceine.—The *American Journal of Pharmacy* gives the following *summary* from the *Gazette des Hôpitaux*, of the observations of M. Liné after a series of experiments with narceine in the wards of M. Delpech:

1st. Of all the alkaloids contained in opium, narceine possesses hypnotic power to the greatest extent. In the great majority of cases neither morphia nor codiea produced so long or so profound a sleep.

2d. Narceine causes, only in a very feeble degree, the physiological phenomena consequent upon the sleep produced by morphia and the salts of that base. Besides, the perspiration is much less abundant than after the use of opiates. Vomiting is rare; nausea and loss of appetite more common. Narceine, in its action upon the intestines, differs sensibly from morphia; instead of causing obstinate constipation, its effect in small doses, is that of a gentle aperient; in larger doses it causes diarrhœa.

3d. Narceine relieves pain like all opiates.

Among the different effects produced upon the secreting organs, that upon the kidneys is nearly constant. Anurea, to a greater or less extent is noticed, particularly after rather large doses. Perhaps this peculiar action of narceine might be turned to account in the treatment of incontinence of urine in children.

Utilization of Cigar-Ends.—Two years ago, a society was established in Berlin, the members of which agreed to preserve all the points of their cigars, instead of biting them off and throwing them away. These ends are collected, and then sold in large quantities, either for the manufacture of snuff or for smoking in pipes. The sum thus raised is applied to the maintenance and education of orphans; and some idea of the extent of the society, and the intensity of its affections for the weed, may be gained from the fact that the cigar-ends of two years' saving have brought in a sufficient sum for the maintenance of twenty-two children. Such a society, it is said, might be established in London to support an hospital for persons suffering from the deleterious effects of excessive smoking.—*Brit. Med. Journ.*

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

Prevalence of Criminal Abortion.—But the worst feature of this matter is its increased and increasing prevalence. Formerly it was almost exclusively adopted to get rid of the encumbrance and shame of illicit intercourse; and by the masses of society, especially the moralist, it was considered as the natural result of such carnal indulgence; and only susceptible of control as the higher religious sentiment prevailed, influencing men to self-restraint. Of course, taking the world as we find it, there was little hope of accomplishing much towards the abatement of the evil—and it could only be held in check by operating upon the fears of men, through law. Now, however, the exceeding prevalence of the evil is found to be among an entirely different class, and the fruit of legitimate wedlock in every grade of society, high and low, but especially the former, is the prey of this destroying Moloch. There is reason to fear that in this present age, but few of either sex enter into the marital relation, without full information as to the ways and means of avoiding or distroying the legitimate results of matrimony—in the one case, whether by injections, imperfect intercourse, or the abominable French appliance, conception is prevented; while in the other, by medicinal or mechanical means, they destroy the fruit of conception; for they are often sufficiently instructed to be quite independent of outside helps. Among married persons, so extensive has this practice become, that people of high repute not only commit this crime, but do not even shun to speak boastingly among their intimates, of the deed and the means of accomplishing it. Is there a physician here present, whose experience does not fully confirm the statement? Gracious Heavens! and has it come to this, that in an age of advanced Christianity, with the advantage and refinement which education is supposed to bring, woman, the dearest, best, and purest of God s creation, can descend to this lowest level, and become a murderess, and that too of her own offspring.—D. M. S.—*Detroit Rev. Med. and Surgery.*

Medical Education in Great Britain.—According to the London *Lancet*, it has just been enacted in Great Britain that no medical student shall be admitted to lectures until he shall have been closely examined in the higher branches of an English education, with mathematics and Latin; that no student shall be examined for his final degree, until he shall have attended four Winter Sessions of lectures, or three Winter and two Summer

Sessions, including in each Session all the branches of Medicine, with Physics, Botany and General History.—*The Cincinnati Lancet and Observer.*

Infusion of Senna with Coffee.—It is often desirable to conceal the flavor of medicinal agents, and this can be readily effected with senna. The *France Medicale* and the *Journal de Medecine Mentale* supply us with a prescription which is used with much benefit in the asylums directed by Messrs. Moreau (de Toues) and Dumesuil (of Quatre-Mares.)

℞. Follicul. sennæ.....℥ ijss. ℥ iv.,
Pulv. Coffeæ Arabicæ.....℥ ij.
Aq. bullientis.....℥ iijss.
Lactis.....℥ iv.
Sacchari.....℥ iss. M.

This mixture, a safe and pleasant aperient, causes no intestinal irritation, and, according to Mr. Lailler, is especially valuable, and its effects are not followed by constipation.

Taken alone, in decoction or infusion of senna leaves has a nauseous flavor which the coffee effectually corrects, and the addition of milk increases its laxative effects.—*N. Y. Med. Jour.*

Capsicum in Delirium Tremens.—Dr Lyons urges the use of capsicum in from twenty to thirty grain doses in the invasive stages of delirium tremens. He administers it either in bolus or capsules. A simple dose sometimes produces profound and refreshing sleep and thus cuts short the disease. Several cases are narrated, showing the beneficial efficacy of the drug when thus used. As capsicum belongs to the great order of the Solanaceæ, Dr. Lyons suggests the possibility of its containing a narcotic principle hitherto undiscovered.—*N. Y. Med. Jour.*

Estimation of Female Nurses by Soldiers in Hospital.—The London *Times* records the arrival of Miss Show Stewart and eight other lady nurses, at Woolwich, from Netley, and says that the inmates of the military hospitals prefer the attendance of the male nurses of the Army Hospital Corps. Of the three hundred patients now in the Herbert Hospital, nineteen out of twenty have expressed their dislike to having the attendance of these ladynurses thrust upon them, contrary to their desire.—*The Cincinnati Lancet and Observer.*

Potent Disinfectant.—The *Dublin Medical Press* states that Dr. De War, Kircaldy, has discovered that "for the disinfection of inanimate material, the addition of a little nitre to sulphur, and the combination of these fumes with the steam of boiling water improvises a disinfectant at once the most powerful, most searching, and most efficacious that can be obtained, utterly destructive at once of any latent contagion, and of every form of insect life."
[*Medical and Surgical Reporter.*

A Medical Governor.—By the election of Governor Swann, of Maryland, to the United States Senate, Dr. C. C. Cox, the Lieutenant-Governor, succeeds to the office thus vacated.

Legalized Prostitution.—It is stated on reliable authority, that Assemblyman Jacobs's bill for the regulation of prostitution, to which we have already referred, has a fair prospect of becoming a law.

Dr. Laseque has been appointed Professor of General Pathology in the Paris Medical School in the place of Dr. Andral.

Miami Medical College.—After a five months term, this Institution closed its exercises, with the conferring of the Degree of Doctor of Medicine on 39 graduates, on Friday evening, March 1st.

Ohio Medical College.—This Institution closed its Course, with commencement exercises, on Friday morning, the 1st instant, with 47 graduates.

Charity Hospital Medical College, of Cleveland, held its Commencement on Thursday evening, February 28th, with a graduating class of twenty-five.

Bellevue Hospital Medical College held its Commencement on Monday evening, February 28th. There were 147 graduates.

The University (N. Y.) Medical College.—Held its Commencement on Friday evening, March 1st, with a graduating class of seventy-five.

The number of students registered in the Harvard Medical School at Boston is 303.

Medical Department of the University of Pennsylvania.—The medical class during the session of 1866-7, according to the catalogue just published, numbered 464.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

A proposition to move the Medical Department of the University of Virginia to Richmond, and amalgamate it with the Medical College of Va., located in this City, was presented to the Committee on Schools and Colleges of the House of Delegates by several members of the State Legislature; but its consideration was deferred on account of the lateness of the session, and the question will probably be again presented to the Legislature at its meeting in April.

The bill proposes that the two Medical Schools in the State shall be united under the name of the "Medical Department of the University of Va.," and be located in the City of Richmond. It directs the transfer of all the property, buildings, museum, &c., of the Medical College of Va., to the Rector and Board of Visitors of the University, and the transfer of so much of the museum at the University as can be spared, to the buildings at Richmond. It requires two of the Professors at the University to come to Richmond; thus leaving two there, one to lecture upon chemistry, and one to fulfil the original intention of Mr. Jefferson, to lecture upon Medical Jurisprudence, Hygiene, &c. The Medical Department thus organized in this City, will consist of nine Professors, and have a course of lectures, of at least six months duration.

The Professorship added to those already established at the Medical College of Virginia, it has been suggested, will be "Diseases of Women and Children" and "Pathology and Pathological Anatomy." This, however, is to be left to the Rector and Board of Visitors, who are to consult the tastes and conveniences of the lecturers. The entire control of the organization is to be placed in the hands of the Board of Visitors of the University of Virginia.

The friends of this movement urge, that by this fusion, the 200 students who, before the war, annually went to Northern Colleges for Medical Education—carrying with them from this State, at least $100,000 a year, could be kept at home. Virginia furnished before the war, between 400 and 500 students every year, more than one half of whom went abroad to study medicine. If possible

this state of things should be corrected. By judicious management the law, theological, and academic schools and colleges, have not only educated all the young men of the State, but have brought many from other States; adding thus materially to the wealth and renown of Virginia. The same good result will attend wise legislation in regard to the Medical Schools.

The Medical Department of the University of Louisiana, located in New Orleans, with the mother institution at Jackson, not only retains in the State the Medical Students furnished by Louisiana, but brings many from all of the adjoining States; and before the war had a class of from 400 to 500.

By concentration the South Carolina School of Medicine has been eminently successful. The University Medical Department of Tennessee, had a class of nearly 500 in 1859-60. Recently the two Schools of Louisville have been fused into one. The Jefferson Medical College, located in Philadelphia, with its mother institution at Cannonsburg, and the Medical Department of the University of Maryland, furnish other examples. On the other hand, Georgia has four or five Medical Colleges, and does not keep within her limits one half of the young men of her State engaged in the study of Medicine. New York, notwithstanding her great commercial prosperity, has never been able to compete successfully with Philadelphia in the character and size of her Medical Schools, because of the number of her Colleges. Ohio and Missouri have signally failed from the same cause. The history of all the Medical Schools of this Country, show conclusively, that success is only found where the efforts of the State have been concentrated at first, upon one institution, situated in a large City, where clinical cases can be obtained and material for dissection is abundant. The experience of the past two sessions, prove that an abundance of both clinical cases and material for dissection can be had in Richmond; and that there is no good reason why a great Medical School cannot be built up in this City. The Medical Department of the University of Va., is simply a preparatory school, avowedly so by the statements of her own Professors—and the students are obliged to go elsewhere, as they say "to finish off." With an average class of ninety, not more than six or eight came to Rich-

mond before the war. From a class last session of thirty-six, only six came to Richmond, leaving thirty to go to the North.

Evidently some radical change is necessary. The wealth of the State, her honour and renown demand it, and the history of other Colleges show that it cannot be accomplished by divided energies, jealousies, rivalries, &c., but by concentrated efforts; by uniting the theoretical and practical schools of the State, and building up one great Medical School in the Capital of Virginia. With a corps of nine Professors, a system of lectures and examinations, lasting fully six months, the standard of Medical education would be raised, and we would have a Medical School, bringing wealth to the State and reflecting honour and renown upon the mother Institution.

Those who oppose this scheme of transferring the Medical Department of the University to this City, insist that if the plan is carried into execution its effect will be to destroy the Medical Department of the University of Va.; as at present organized and conducted, it is a complete success. Claiming to be simply a preparatory school, it is acknowledged to be one of the best in this Country.

The Professors, by the rules of the institution, being denied the privilege of practicing their Profession, are never absent, but constantly accessible to the students, and bear to them the relations of private preceptors; that, though some of the students graduate at the University of Va., they rarely ever avail themselves of the privilege of the diploma to practice their Profession, before attending clinical lectures in other Institutions. They urge that one advantage of keeping the Medical Department where it now is, is that it gives the students the opportunity of attending lectures delivered by the Law and Academic Professors. They deny that a long session, and their peculiar system of lectures and examinations can be practically carried out by fusing the two Schools.

It is inconsistent with the avowed policy of this Journal to advocate either side of a question, not entirely scientific in its character, and it is not intended by the above, to commit this Journal one way or the other, as opposed to, or in favour of, the movement. The subject is interesting and important, and as such, is presented for consideration to the Medical Profession of the State.

NOTICES.

☞ Short Articles.—It is requested, that articles contributed for this Work, should be brief and practical. With few exceptions, long communications are distasteful to readers and are generally neglected; it is difficult to make room for them. Papers of merit are retained for many months, when, if the valuable truths contained were briefly presented, they would be promptly published. It is the desire of the Editors of this Journal to increase, relatively, the Eclectic Department, and, to effect this, original papers of limited extent are preferable.

☞ The Editors of this Journal wish it understood that they do not desire the subscription of any one who is unwilling to observe honourably and in good faith, the "terms" to which he subscribes. If any one is unable to pay five dollars within the period specified, or is unwilling to pay subsequently the additional amount necessary for his accommodation, it is requested that he will abstain from subscribing.

☞ Georgetown Medical College has closed its session—5th March—with 40 graduates—whole class for 1866-7, 120. We are glad to see they still enforce the three year system, and require the thesis.

☞ Dr. J. C. Nott, whose scientific and literary reputation is only excelled by his Professional skill and distinction, contemplates in May changing his residence, now in Mobile, to Baltimore. While we sympathise with Mobile in its loss, we congratulate Baltimore in its accession.

☞ Drs. J. D. Jackson and S. P. Breckinridge, of Danville, Ky., are making strenuous and laudable efforts to revive the "old fogie" so-called, but yet most valuable aid to a thorough medical training of the Students—viz. the office instruction. We heartily commend their enterprise, not only on their own meritorious account, but also in the behalf of an old system, than which there never has been yet anything better devised.

☞ Dr. M. Gonzales Echeverria, on Lake Mahopac, N. Y,, has opened an Institution for the treatment of Paralytic and other nervous affections. Correspondents will address him at 49 East 21st street, New York City.

Seventy-five cents will be given for every copy of this Journal for October, 1866.

☞ Notices to Subscribers, Advertisers, Contributors and Correspondents.

Those once ordering the Journal will each year be considered as subscribers, and the terms of this Journal adopted in regard to them. An order for discontinuing the Journal should be sent at least two months in advance. As is usual, no subscription or advertisement will be discontinued until arrears are paid.

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All contributions or papers, intended for insertion in the next Number of the Journal, should be received by the middle of the month preceding.

Contributions for publication must bear the signature of the writer, and must be communicated to this Journal exclusively.

Original articles should be written on one side only of each sheet, and the manuscript should be, by the sign (¶), divided into paragraphs.

Contributors can have forwarded to them, at a small expense, one hundred or more copies of their articles, in pamphlet form, provided the order to this effect be received before the period of publication.

The Journal will be sent a second time, when not received one month after the usual period of its appearance.

Rejected manuscript will be returned, if desired, by mail or Express, at the expense of the writer.

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☞ This Journal is published as a Monthly octavo of ninety-six pages. It is now the largest Medical Monthly issued in America.

The Editors offer to pay, at the HIGHEST JOURNAL RATES, for ARTICLES, ESSAYS, CORRESPONDENCE and REVIEWS OF RECENT WORKS.

The terms of this Journal have been changed; see notice on the cover.

OBITUARY.

The New Orleans Times, of the 21st of March, records the death of Dr. THOMAS HUNT, of that City, aged 56 years and ten months.

By this sad event, the Medical Profession has sustained a very severe loss, as he held a prominent position in it, and had attained, not only in that City and State, but throughout the South, the highest eminence for profound learning and every accomplishment, which could command success and confidence, as a Physician. During a long career there, he enjoyed the confidence of a large circle of friends, patients and admirers.

Dr. HUNT was born in Charleston, S. C. He was the third son of Thomas Hunt, Esq., a member of the bar of that City, and his grandfather, who was an Englishman, held for many years, the position of Governor General of the Bahama Islands. His mother was the sister of Hon. John Gaillard, who was well known as having been, for more than twenty years, President of the Senate of the United States.

Having finished his collegiate course, and graduated with high distinction, Dr. H. adopted the Medical Profession, and at an early period of his career (1833,) performed a noble act of generosity by volunteering to attend the patients on board of a vessel, which had arrived at Folly Island, in Charleston harbour, and in which the dreadful pestilence of Asiatic cholera prevailed. By his skill and unremitting kindness, many lives were saved, and the survivors showed their grateful appreciation of his services by an appropriate memorial.

Having spent some years in Europe, he settled in New Orleans, where he has laboured fathfully and successfully, and at the time of his death, was President of the University of Louisiana, Professor of Physiology, Pathology and Physiological Anatomy in the Medical department.

As a lecturer, he was exceedingly eloquent and learned, always ready on all questions of a scientific, and even political character, and in the social circle he was remarkable for his ready wit and agreeable converse. He leaves a widow and three children, with numerous relatives and friends, to mourn his loss.

BOOKS AND JOURNALS RECEIVED.

Idiveg, and its treatment, by the Physiological method. By Edward Seguin, M. D. From the Publishers. William Wood & Co., 61 Walker street, N. Y.

An Inquiry into the origin of Modern Anæsthesia. By Hon. Truman Smith. From the Publishers. Brown & Gross, Hartford, Conn.

Mechanical Surgery. E. D. Hudson, M. D. New York.

American, as compared with Foreign Fecundity. By Prof. H. R. Storer.

Biographical Memoirs of Franklin Bache, M. D. By George B. Wood, M. D.

Reaman on the Yellow Fever of 1762. By John Reaman, M. D.

Fourteenth Annual Report of the Pennsylvania Training School for feeble-minded children.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—EXTRACTS FROM CLINICAL LECTURES, Delivered before the Class of the Virginia Medical College, Session 1866–7. By HUNTER McGUIRE, M. D., Professor of Surgery.

1st. *Use of chloroform in cases of "foreign bodies in the air passages."*

Let me impress upon you the importance of resorting to proper means for the removal of foreign bodies in the air passages, with the least possible delay. The patient's life is in immediate danger as long as the foreign substance is permitted to remain in the wind-pipe. At any moment spasm of the glottis may occur; or the foreign body may become so fixed in the larynx—a very common site for it to lodge—as to interfere mechanically with respiration, and produce speedy suffocation; or a blood vessel of the brain may be ruptured during one of the frequent and violent fits of coughing. There are other consequences, not so imminent, but scarcely less dangerous. Destructive inflammation of some portion of the air passages is almost certain to ensue if the foreign body is allowed to remain there. I have been surprised, sometimes, to see how quickly inflammation of the lungs and bronchial tubes will begin, and how rapidly it will run its course in these cases; and I have no doubt that a large share of the mortality, attending tracheotomy, for the removal of foreign bodies, is due to the delay of the Surgeon

in resorting to the operation, unwisely postponing the removal of the intruding substance until it has excited fatal inflammatory changes in some of the important structures involved.

A case of foreign substance in the wind-pipe is even more urgent than the case I showed you the other day of strangulated hernia; and to unnecessarily postpone the operation, after a fair and patient, but unsuccessful effort by other means, is just as culpable as withholding the knife from a strangulated hernia, the reduction of which has resisted one or two decided, skillful and thorough trials at taxis. The repetition of emetics, sternutatories, inversion of the body with succussion, &c., is as unavailing and as dangerous as the prolonged handling and pressure of a hernia after taxis has failed. Fortunately, since the introduction of chloroform, our efforts at taxis are much more frequently successful, and the use of the knife comparatively rarely needed; and I believe that by the proper use of this anæsthetic, we may frequently succeed in removing a foreign body from the wind-pipe without recourse to tracheotomy. The great barrier to the escape of the foreign body is the contraction of the muscles of the larynx. The diminished size and irregular surface of the larynx present some obstacles; but if the foreign body is loose, and frequently shifting its position, as in the case of a grain of corn, cherry-stone, bean, or anything of that kind, it is often proprelled upwards into the rima, and might escape but for the spasm into which the glottis is thrown. The very moment the intruder touches the delicate, sensitive lining of the larynx, the muscles are violently contracted, and either grasp the foreign body and hold it there, or compel it to fall back into the trachea. If, under these circumstances, instead of giving snuff and other sternutations which are utterly inefficient, or resorting to emetics which are worse than useless, or inverting the body which is dangerous, you put the patient partially under the influence of chloroform, just so far as to lessen or entirely suspend the sensibility of the glottis, you will have him in the most favourable condition for the expulsion of the foreign substance. The vapour of the chloroform, passing over the inner surface of the larynx, may, to some extent, act locally; but the insensibility is chiefly produced by the suspension of general sensation. Strike the patient now upon the

back or chest, or induce him to cough or sneeze, and the foreign body may pass into the mouth, without exciting the muscles of the larynx to contract at all. If this plan fails, I would place him thoroughly under the influence of the anæsthetic, and then, by inverting the body, attempt by succussion to dislodge the intruding substance. The chances for success in this operation will certainly be materially increased, and the danger of suffocation by spasm, &c., entirely removed by the use of chloroform.

This idea was suggested to me by a case which fell into the hands of my father some years ago. He had given a child chloroform with the view of opening the trachea, to remove a grain of corn, which had accidentally "gone the wrong way," when a sudden change in the position of the corn in the wind-pipe threatened to suffocate the patient, and compelled him to defer the operation for a moment, and resort to striking the patient upon the chest and back, in order to shift the situation of the foreign body into some less dangerous place. During this time partial consciousness returned to the little sufferer, and coughing once, he expelled the corn through the glottis into the mouth. The same thing happened in another case, in which I had actually begun the incisions for tracheotomy.

It is possible that insensibility of the larnyx might be induced by Richardson's apparatus for local anæsthesia, but I have never tried it for this purpose, and would prefer to use chloroform.

Case 2d.—In the operation for cataract by extraction, one of the most frequent and troublesome accidents, is protrusion of the iris through the corneal incision. It may take place during the operation, or may occur sometime after, and not be observed until we separate the lids to examine the eye at the end of the 5th or 6th day. If the protrusion happens during the operation, the iris is generally easily replaced, though the necessary manifestations, made as delicately as possible, are often calculated to do harm. But if the hernia takes place after the operation has been completed, and the patient put to bed, the prolapsus is not so easily gotten rid of, and the consequences are often most disastrous. A very common cause of prolapse of the iris, is the manner in which the lens is made to leave its bed, and pass through the pupil into the anterior chamber and thence through the corneal wound. The object of the Surgeon, after

dividing the capsule, is by gentle pressure upon the ball of the eye, to make the lens slightly revolve upon its transverse axis, and its upper border pass into the pupil. Thus the lens is brought through the pupil edgewise, and coming in contact with the posterior surface of the cornea, is directed upwards to the corneal wound. But it is not always easy to so exactly regulate and direct the pressure as to effect this manœuvre. If the cataract does not revolve sufficiently upon its axis, and pressure, either by the Surgeon or by the muscles of the eye be continued, the broad surface of the lens will be presented to the pupil, and the iris pushed or pulled out of the corneal wound in front of, or along with the lens. This will be more likely to occur if the pupil is contracted.

I think the danger of prolapse of the iris may be materially lessened in two ways: First, by not operating, as Gross and others recommend, with a contracted pupil, but by applying a solution of atropia to the eye before beginning the operation. The pupil being dilated, there will be little or no resistance offered by the iris to the escape of the lens, and consequently less danger of prolapse of the iris. The application of atropia gives you other advantages: it diminishes the chance of entangling the point of your knife in the iris, while making the corneal section; and it doubtless exerts some influence in preventing or controlling too great subsequent inflammatory action. Dilatation of the pupil, in a patient under chloroform, controlling the action of the recti muscles of the eye, does not increase the danger of escape of the vitreous humor; but by permitting the lens to pass readily into the anterior chamber, it diminishes the amount and time of pressure necessary upon the ball, and the chances of rupturing the hyaloid membrane—another plan, which I have just adopted in the case before you. After tearing through the capsule with this needle (Scarpa's), place the flat surface of the instrument against the lower border of the cataract, and gently push it backwards, thus tilting the upper border of the lens forward towards the pupil. This should be done very slowly and gently. The lens being now turned upon its axis, by pressure applied to it directly, and not through the ball of the eye, and the pupil well dilated, the cataract escapes without further trouble, leaving the iris unhurt and in its proper position.

ART. II.—On Asthma. By BERNARD KELLY, M. D., New York.

What is asthma? This may seem a very simple and unnecessary question, and yet, if we only reflect upon the diverse and often conflicting peculiarities of the disease, it may not be so easy to give it a satisfactory and comprehensive solution.

If called to see a patient during the paroxysm, our attention is at once arrested by the excessive gravity of the objective symptoms—the bloated, livid expression of the countenance, the projecting eyes, the laborious breathing, the impossibility of maintaining the recumbent position the greedy craving for fresh air, the profuse perspiration—all indicate the extreme suffering and anxiety of the patient; and yet, to the experienced practitioner, there is a vast difference, in a prognostic point of view, between such a train of symptoms, however urgent and impressive they may appear, and the comparatively quiet and insidious manifestations of a pleurisy or a pneumonia. If we make a physical examination of the chest, the disease, once more, plays the same deceptive rôle; perfect resonance on percussion throughout; the motions of expansion and contraction complete, symmetrical, only somewhat retarded—signs which, to the uninitiated, might well proclaim all order and tranquillity within. The ear is seldom more frequently instructed than confused by the great variety of sounds which greet it on all sides—cooing, sonorous, subcrepitant and sibilant ronchi, all blending their significant notes, and conducing to form no very discordant symphony. And yet, strange to say, the disease is not, strictly speaking, pulmonary, *but rather one manifesting itself in the lungs.*

Let us take, by way of elucidation, one or two examples to show that the above proposition, however paradoxical it may appear, is nevertheless well founded in fact.

An individual has resided a long series of years in a mountain district, where he had always enjoyed robust health, but, more especially, seemed to possess a privileged immunity from all forms of chest disease. He, finally, from choice or otherwise, resolves to change his residence to some pleasant valley, or, it may be, to some densely populated metropolis. He is scarcely settled in his new home, which, in his delusive anticipations, was to crown the mea-

sure of his earthly happiness, when, all of a sudden, he is seized with an incontinent fit of asthma. Another person, the resident of a crowded city, where he had inhaled, all his lifetime, the disgusting and noxious effluvia peculiar to such a place, and where he had been almost absolutely deprived of pure air, without, however, having once contracted any serious trouble of the lungs, determines to become a farmer, and selects for the purpose, it may be, a fertile plain, abounding in rich vegetation and sweet-scented flowers; or, he may even aspire to the lofty mountain-home just abandoned by the former. An attack of asthma suddenly supervenes, which may be contracted according to circumstances which we shall endeavor to explain hereafter, either upon the low or elevated ground. In the first example, one is not so much surprised at the early development of a morbid condition of the lungs, inasmuch as they were previously accustomed to the vivifying influence of fresh air; but why it should assume the form of a spasmodic disease like asthma, rather than a bronchitis, or a pneumonia, or a phthisis, remains the great mystery. In both instances, we repeat, the lungs are organically free from disease; they are merely the seat of peculiar pathological phenomena, depending upon another and entirely different diseased structure, and which involve, as their distinguishing character, impaired or exaggerated respiratory function.

On percussing the chest, as it has already been stated, complete resonance is heard; consequently no consolidation of, no effusion into, the lung tissue. The various kinds of râles and ronchi are easily accounted for. The cooing and sonorous are generated in the large bronchial tubes being deprived of their natural moisture, and the normal, healthy respiration, being more or less obstructed at a point intermediate with them and the air cells. The sibilant and subcrepitant arise, the former from spasmodic constriction of the bronchioles, devoid as they are of cartilagenous rings, and supplied with organic muscular fibre—anatomical conditions which readily admit of bronchial spasm under any undue or unaccustomed nervous stimulus, the latter, from an excessive quantity of bronchial secretion having accumulated between the point of constriction and the pulmonary vesicles. This spasm, if it does not constitute the whole sum and substance of asthma, at least fur-

nishes the clue, we think, to its real pathological nature and origin.

The knowledge of this fact leads us a step farther, and naturally suggests the question—What produces the spasm? For this act there are only two conditions necessary—an external exciting cause, and an internal predisposition. The external agent may be either a very dry, bracing atmosphere, or the opposite of this, an excessive quantity of watery vapour contained in the air; or it may be the aroma, to many persons so agreeable and refreshing, exhaled from certain plants and grasses. The predisposition is centered, not alone in the individual, but in some fixed portion of the nervous system, and which the researches of experimental physiology, we imagine, fully explain.

We know that there are three sets of nerves which go to supply the organs of respiration, viz: the great sympathetic, the pneumogastric, and the spinal. But the special functions of all three, although agreeing in the ultimate intention, and coöperating in the common task, are entirely dissimilar. The sympathetic presides over the circulation and nutrition of the lungs; and beyond this, it exercises no positive or active influence upon the process of respiration, at least in a state of health. The pneumogastric controls and coördinates the function of respiration specifically, and is distributed to the bronchi, their ramifications and the pulmonary vesicles. The spinal nerves merely supply the muscles of the neck, thorax and diaphragm—organs through whose agency the laborious part of the breathing is principally accomplished.

A lesion involving either set of nerves will be necessarily followed by results differing widely from each other, but of great diagnostic value, as showing the real importance of each group as regards their special functions, and as pointing clearly to the precise seat of injury. If the sympathetic be paralyzed or divided, all the prominent symptoms of inflammation of the lungs manifest themselves; the pulmonary circulation is accelerated, the respiration hurried, febrile heat developed in the parts to which the nerve is distributed—in a word, all the rational and physical signs of a true pneumonia are exhibited. We here see that the organic functions of the sympathetic are strictly confined to the nutrition and

circulation of the lungs. The sensibility of their tissues is always increased as a direct result of such lesions; hence the quickened respiration already noticed—the organs feeling then, more than ever, the urgent necessity of taking breath. The great sympathetic sending filaments also to the heart, endows that organ with motion, the branches supplying it from the pneumogastric, coördinate its pulsations, giving them regularity, rhythm and force.

In many inflammatory diseases in which an excessive amount of carbonic acid is always generated, the same distressing sense of suffocation, characterized by French writers as *le besion de respirer*, is more or less experienced; not, we believe, on account of the increased pulmonary circulation in such cases; not even in order to eliminate the product in question, but because, no doubt, the sympathetic becomes paralyzed by the well-known anæsthetic action of the gas, and the organic irritability of the lungs is thereby increased at least temporarily. The sympathetic must necessarily be the first nerve influenced by the action of the carbonic acid, ramifying and bleeding most intimately as it does upon the coats of the vessels and with the component tissues of the lungs. When respiration from any cause has been impeded a sufficient length of time, the function of the pneumograstic is also suspended, the anæsthesia passing rapidly to that nerve; and then we have complete asphyxia as the result, which may end in death, or from which the individual is only aroused by the application of some powerful stimulus or neutralizing agent. Mere irritation of the sympathetic is attended by no sensible effect other than a notable decrease of temperature and retarded circulation in the parts to which the nerve is distributed—phenomena the very opposite, strange to say, of what obtains upon its section or paralysis.

Should the pneumogastric be experimented upon, the following order of symptoms is observed:

Section of both nerves in the superior region of the neck is followed with paralysis of all the muscles of the larynx, even to the vocal chords. They becme flaccid, and, as a consequence, the *rima glotidis* closes, the air is expelled forcibly from the lungs, owing to the natural contractility of the organs; and inspiration becomes impossible, both on account of the pulmonary collapse

which ensues, and the atonic condition of the larynx already referred to. The animal speedily dies from suffocation, even when tracheotomy has been performed. Congestion of the lungs is always found after death, which is invariably of a mechanical and passive character. On the part of the circulation, we find that the heart's action is increased in frequency and diminished in force—peculiarities which depend, as already stated, upon the antagonistic functions, respectively, of the par vagum and sympathetic nerves. All the parts to which the nerve is supplied not only lose their sensibility and power of movement, but their natural temperature, also, is very sensibly decreased.

If the communicating branch of the spinal accessory be cut off from its connection with the pneumogastric, the functional irritability of the lungs is nowise affected; neither is the reflex motor power lessened to any appreciable degree, since the nerve, by its origin, is purely one of sensation, and the points of communication with nerves of motion are numerous and extensive, anastomosing freely, as it does, with the glossopharyngeal, hypoglossal, facial, and with the anterior branches of the first and second cervical pairs of nerves.

When the pneumogastric is severed below the origin of the superior laryngeal and recurrent branches, the animals can yet breathe—the opening into the trachea remaining patulous, but eventually succumbs in the course of some days, in consequence of changes of a fatal character that take place in the organs of digestion. The œsophagus and stomach, in such instances, remain dilated and paralyzed; the gastric juice, nevertheless, is secreted; and absorption even, goes on with the same order and rapidity as it does in the physiological state—facts, the knowledge of which must be of immense importance, if not in a therapeutic, at least in a nutritive point of view, should such casualty haply have occurred in the human subject.

When the pneumogastric is simply stimulated or galvanized in any part of its course, the muscles of the pharynx and larynx are spasmodically contracted, producing temporary dysphagia and embarrassed respiration. The muscular coat of the stomach is also influenced by the irritation, as is shown by the sudden and active regurgitation of its contents.

It is unnecessary to dwell here upon the intimate and curious relation existing between the glycogenic function of the liver and an over-excited condition of the par vagum, as such a discussion would not only be irrelevant, but entirely foreign to the subject under consideration.

Very remarkable phenomena are furnished by the latter experiment, on the part of the organs of respiration. The air is expelled abruptly from the lungs; and the animal, while under the operation, exhibits all the outward manifestations of a disease precisely resembling asthma. Irritation of the pulmonary branches of the vagum is marked by effects that are exclusively confined to the lungs themselves. The respiration is hurried and generally laborious; the patient usually seeks the fresh air, and experiences a vague, indefinite feeling of suffocation, and the necessity of expectorating some imaginary substances impacted in the air passages.—There is always a spasmodic, teasing cough, which may be either continuous or intermittent, according as the exciting cause is persistent, or merely accidental and temporary in its action. When the irritation is due to the presence of crude tubercles embedded in the lung tissue, the cough is necessarily continuous, but subject to exacerbations and remissions from modifications impressed upon the pulmonary circulation during the process of digestion, and the periods of exercise and repose.

No irritation or lesion effecting the spinal nerves, distributed to the muscles of respiration, could possibly produce a train of symptoms resembling those just enumerated; in other words, analagous to those of asthma. Their mere irritation would simply be followed by neuralgic pains and muscular twitchings; while their complete section or paralysis would inevitably induce speedy death, as no effort on the part of the lungs could long withstand the atmospheric pressure exerted on them.

We have, therefore, no alternative left us, it would seem, but to admit that asthma is the result of some peculiar pathological condition of the pneumogastric nerves manifesting itself in the lungs. Why these nerves should be so affected, and by causes so apparently opposite and diverse, is the great mystery. A moist atmosphere produces the disease in one individual, while it cures it, so to speak,

in another. The odour of certain plants and grasses, so delicious to most persons, is the fertile source of this most distressing complaint to an exceptional class. The mere fact of our not always being able to explain the origin and cause of morbid phenomena, should not make us sceptical of their existence. We know that in facial neuralgia, for instance, one branch of the fifth pair of nerves is often the seat of pain, while the others enjoy a complete immunity from it. We all freely and implicitly admit this truth, yet the cause of its anomaly is not the less obscure. Again, in tetanus, and in poisoning from strychnine, most, if not all, the voluntary muscles of the body are violently and involuntarily contracted, yet no physician upholds the doctrine that such spasms are only symptomatic of some indefinable disease of the muscular system; all, on the contrary, attribute them, and justly so, to pathological changes induced in the spinal chord and its ramifications. These remarks, we trust, together with the foregoing proofs, will exonerate us from the charge of entertaining extreme and too hastily adopted views respecting the nature and true seat of asthma, and will attach plausibility, if not, indeed, entire credence, to the somewhat novel assertion *that the disease is not, strictly speaking, pulmonary, but rather one manifesting itself in the lungs.*

ART. III.—SOME OBJECTIONS TO DR. J. H. SALISBURY'S THEORY OF THE CAUSE AND PATHOLOGY OF INTERMITTENT AND REMITTENT FEVERS. By S. P. BRECKINRIDGE, M. D., Danville, Ky.

We are all, more or less familiar with Dr. J. H. Salisbury's theory of the cause of Intermittent Fever, presented to the Profession in the columns of the *American Journal of the Medical Sciences*, for January, 1863. It is a theory of "elimination," and like Dr. Geo. Johnson's theory of elimination, in the case of the cholera poison, it is characterized by the boldness of its statements and the unhesitating positiveness with which they are made. Unlike Dr. Johnson's, it is not a theory built on facts which have long been the common property of the Profession, but one which rests on the broad foundation of a special discovery. Not that the sweating

stage of an ague had never before been regarded as an effort of nature to throw off some morbid product from the system, for such an idea is not by any means new, but adopting this old supposition as his own, and moulding it to fit certain supposed facts just brought to light, he presents us with a theory which, if true—and it can readily be tested—settles at once the long vexed question of the origin of Intermittent Fever. It is not usual for a great discovery in medicine to be made, elaborated and announced as true within the space of a few months. Jenner was a long while engaged with the cow-pox virus, and Bassereau devoted years to the discovery of the duality of the syphilitic poison. Perhaps, however, as Americans are the fastest people in the world, and take the "shortest cut" on every occasion, they may carry this national peculiarity even into the realm of science. It has been said that Dr. Benj. Rush thought nature was a good deal shaken by the Declaration of Independence, and, it may be, that she has not yet recovered her self-possession, but yields up her secrets upon the first demand of a free born American. However that may be, we are told positively by Dr. Salisbury that he has discovered the cause of Intermittent Fever, and it consists in nothing more, or less, than the introduction into the system of the spores of certain kinds of cryptogamic plants. Now, a good many years ago, Dr. J. K. Mitchell suggested * that malaria might be due to a vegetable agent pervading the atmosphere, and too minute for even microscopic detection, but Dr. Leidy † declared this to be an absurdity. "The smallest of all known beings," he said, "is the Vibrio Lineola of Müller, measuring only the 36-000th of an inch, and the smallest known vegetable spore is very much larger than this, whilst particles of inorganic matter can be distinguished the 200-000th of an inch in size. To assert, under these circumstances," he continued, "that there are spores and animalculæ capable of giving rise to epidemics, but not discernible by any means at our command, is absurd, as it is only saying in other words that such spores and animalculæ are liquid and dissolved in the air, or in a condition of chemical solu-

* "On the Cryptogamic origin of Malarious and Epidemic Fevers."

† "Fauna and Flora," see Introduction.

tion." These observations do not apply, however, to Dr. Salisbury's proposition, for that is quite different in one respect from Dr. Mitchell's. The theory of Dr. S. is simply this, that there are certain plants—called palmellæ and palmelloid—which act as a direct poison to the epithelium of the mucous membrane—that they are easily detected both in and out of the body—that they multiply until nature becomes irritated at their presence and makes an effort to expel them, and that this effort is seen in what we call a chill. In a large number of cases of Intermittent Fever, he thought he could trace a connection between the disease and the presence of these malignant little plants, growing somewhere in the vicinity. Indeed, he subjected the excretions "of several hundred cases to careful microscopic examination," and states that his examinations "establish the fact that ague plants, the same as grown upon the ague soil, are constantly developing in the system of the intermittent fever patient." Many other observations, by other observers and in different places, will be needed to confirm this statement.—Even if it should be ascertained that these vegetable spores frequently exist in the excretions coincidently with malarial paroxysms, the relative positions of cause and effect could not, from this alone, be assigned to them. And, furthermore, as was recently remarked,* "after the relation between the poisonous palmellæ, and the febrile attacks shall have been established to be causative, and not merely coincidental, we shall by no means regard it as proved, that these algoid spores constitutute *malaria*, or are to be considered as the exclusive producers of periodical fevers."

One thing must be said in compliment to Dr. S., that whether his supposed discovery be real and destined to live, or an enthusiastic illusion which shall perish after an ephemeral notoriety, he certainly deserves the thanks of the profession for the untiring energy he has displayed throughout the period of his researches. No doubt he wishes more than thanks. As his only object has been the attainment of scientific truth, he will be desirous of having his observations carefully scrutinized and put to the test.

Unfortunately, there are many malarious districts in our country,

* Dr. S. H. Dickson on Causation of Diseases.—"Richmond Medical Journal," January, 1867.

and abundant opportunities will be offered for confirming or refuting his results; yet, heretofore, little or nothing seems to have been done in this respect. It is a rather singular circumstance that his bold and interesting paper has elicited so little comment from the medical Journals. Those to which we have access—English, French and American—gave the discovery a passing notice when it was first promulgated, and then dropped it, apparently, forever. Now, one of several alternatives must exist in this case.—Either they regarded it (the discovery) as being so plainly true and self-evident that discussion was uncalled for, or they considered it too important for any but the most serious debate, accompanied by experimental researches which they have not had time to institute, or else they looked upon it as too shallow and worthless for their attention. But none of those suppositions is altogether satisfactory. The first one we cannot admit. The second might have held good a year ago, but has lost its force now, and as for the third, who would think of applying it? Perhaps, the main cause of this general silence is, that most members of our Profession are not familiar with the different varieties of cryptogamic plants, and hence find themselves unprepared at once to investigate questions pertaining to this class of Medical Botany.

If it shall, unhappily, appear that this dicovery cannot stand the tests of investigation, we will not be utterly discouraged. We remember vividly Dr. Salisbury's article on the cryptogamic origin of camp measles*—an article which displays a warm love of discovery and a spirit of bouyant hopefulness—and we cannot but feel that, if there be any poisonous spores pervading our atmosphere, his keen eye will detect them.

While awaiting the publication of further researches on this subject, the following objections to his theory are respectfully submitted.

1st. Dr. Salisbury declares,† "so far as I have examined (and my observations have been widely extended,) I never have found a case of ague, in situ, where I did not find these plants, ("three

* "American Journal Medical Sciences," July, 1862.

† "American Journal Medical Sciences," January, 1866, page 63.

species of palmellæ, or palmelloid plants, one green, another red, a third lead coloured") growing near; and vice versa, I never have found these plants growing in any locality but that (if such locality was inhabited) intermittent or remittent fever, or both, prevailed in proportion to their extent and profusion." Now the first part of this sentence, is quite credible, for the place of growth of the Algæ is extremely various. ‡ Whenever moisture of any kind lies long exposed to the air, Algæ of one group or other are found in it. Moisture and air are the only requisites in the development of this class of cellular plants. Different species may be found at all temperatures. Some flourish in the tropics, others in the temperate zone, and still others, like the Red snow plant, (which is of the family Palmellaceæ and is analogous in form and colour to the "Gemiesma rubrum" of Dr. S., "which produces intermittents of a congestive type") find an appropriate soil on snow-capped mountains, or on the surface of polar ice. The very air which we breathe is supposed by some authorities to be the natural home of that form of vegetable life now under consideration. "It has even been supposed" says Mr. Wm. H. Harvey, of the Dublin University, from whom we have just been quoting, "that the minute Diatomaceæ, whose bodies float through the higher regions of the atmosphere and fall as an impalpable dust on the rigging of ships far out at sea, have been actually developed in the air; fed on the moisture semi-condensed in clouds; and carried about with these 'lonely' wanderers. When this atmospheric dust was first noticed, naturalists conjectured that the fragments of minute Algæ of which the microscope showed it to be composed, had been carried up by ascending currents of air, either from the surface of pools, or from the dried bottoms of what had been shallow lakes. But a different origin has recently been attributed to this precipitate of the atmosphere by Dr. F. Cohn, Prof. Ehrenberg, and others, who now regard it as evidence of the existence of organic life in the air itself! This opinion is founded on the alleged fact, that atmospheric dust, collected in all latitudes, from the equator to the circum-polar regions, consists of remains of the same species, and that certain characteristic forms are always found in it, and are

* Wm. H. Harvey on Marine Algæ. Smithsonian Reports, 1855.

rarely seen in any other place. Hence it is inferred that the dust has a common origin, and its universal diffusion round the earth points to the air itself as the proper abode of this singular fauna and flora—for minute animals would seem to accompany and, doubtless, to feed upon the vegetable atoms. If Algæ thus people the finely divided vapor that floats above our heads, we shall be prepared to find them in all water condensed on the earth. The species found on damp ground are numerous. These are usually of the families Palmellaceæ and Nostochaceæ." One of the plainest conclusions to be drawn from these remarks is, that palmelloid plants, being spread generally over the earth, will frequently enough be found in districs where intermittent fever prevails, just as confervæ are often found under like circumstances, but while naturalists acknowledge the value of the latter plants, as respects their influence upon the atmosphere, they have heretofore never discovered deleterious effects accompanying the growth of those first mentioned. The mere fact of the existence of malarial disease in the vicinity of this form of cryptogamic vegetation, no matter how often it may occur, is no evidence of the relationship between them of cause and effect. But, on the other hand, instances may be pointed out of the prevalence of periodic fevers at places where the most scientific explorers could detect in the air neither vegetable spores nor any solid particles whatever.—* "Frequently," says Dr. Joseph Leidy, "I have examined the rains and dues of localities in which intermittents were epidemic upon the Schuylkill and Susquehanna Rivers, but without being able to detect animalculæ, spores, or even any solid particles whatever. I have examined the air itself for such bodies, by passing a current through clear water. This was done by means of a bottle with two tubes passing through a cork stopper; one tube dipping into the water, the other reaching not quite to its surface. By sucking upon the latter tube, a current of air passed through the former, and was deprived in its course of any solid particles.—Ordinarily, when the atmosphere was still, early in the morning, or in the evening, neither spores nor animalcules could be detected. When piles of decaying sticks or dry leaves were stirred up, or the

* Introduction to Flora and Fauna within Living Animal

dust was blown about by the wind, a host of most incongruous objects could be obtained from the air; none, however, which could be supposed capable of producing disease." Dr. Leidy has since stated that he has had palmellæ and many other species of Algæ growing in his chamber without experiencing from them any symptoms of periodic fever. It may be said that this is negative evidence. We reply, that is true, but if it is established, in even one case, that the febrile attacks were not caused by vegetable spores, it has become manifest that these spores are not the *exclusive* cause of this disease.

2. There are numerous instances of regions rich in cryptogamic growth—possessing the varieties of Algæ in the most luxuriant profusion, and yet apparantly exempt from the ague poison. Such are portions of Hindostan, some Islands in the Indian Ocean, the bayous of Louisiana, and the Dismal Swamp in Va.*

On the other hand, the arid, rocky Island of Malta, where no vegetable growth is said to exist, is especially obnoxious to the periodic fevers. When the English army, in 1794, was decimated by malarial disease in Walcheren, it was encamped on soil consisting "of a fine white sand and about a third part clay," which supported no vegetation but stunted heath plants.†

3. The statement of Dr. S., to the effect that quinia checks the multiplication of yeast plants in fermentation, seems to be incorrect.

We made the test first with Sulphatis Quiniæ grs. v., and yeast ℥ i., and wheat flour enough to show plainly the process of fermentation, if it should occur. On examination, sixteen hours afterward, fermentation was seen to have proceeded just as if the quinia had not been present. The same amount of yeast (℥ i.) and flour (one teaspoonful) was tried with sulph. quiniæ, grs. x., with a like result. Then twenty grains of the salt were used, and finally *half a drachm* of the same to the above mentioned quantities of the other substances—but still fermentation went on as usual. The dough "rose" to the customary height and after being baked, presented the appearance of a very respectable breakfast roll. It

* Dr. S. H. Dickson, on the Causation of Diseases. "Richmond Medical Journal," January, 1867.

† Sir Gilbert Blane, quoted by Dr. Thomas Watson.

tasted extremely bitter—that was all. On microscopic examination, the risen quinine dough presented appearances identical with those of the risen unmedicated dough, with the exception of the presence of quinine crystals.

Thus the analogy sought to be established between the action of quinine in controlling the development of the "malarial cryptogams," and its action "in checking the multiplication of yeast plants in fermentation," cannot exist—except where it would be useless to science to find it—in the author's imagination.

4. A paroxysm of intermittent fever cannot be regarded as an effort to eliminate poison from the system, because its prevention, or arrest, benefits the patient. The latter *fact* is too obvious for comment.

The arrest of a paroxysm by the mere application of ligatures to the limbs of the patient,* points to the nervous system as the actual seat of the disease. According to Brown-Séquard, than whom there is no higher authority, the malarial poison produces fever by a peculiar influence upon the spinal cord, and the success of the ligatures against fever and ague is due to a favourable change in a nervous centre, induced by a peripheric irritation of incident nerves.

6. In many cases of intermittent fever *there is no sweating stage*, but simply a chill and a fever. Consequently the poison is not eliminated according to the theory under consideration—yet the patient may speedily get well.

7. On the other hand, the health of the patient fails in proportion to the frequency and copiousness of the morbid diaphoresis which accompanies a paroxysm.

Art. IV.—On the Treatment of Delirium Tremens. By Morse Stewart, M. D., Detroit, Mich.

An article in the *American Journal of Medical Sciences* for October, 1866, and copied from the *London Lancet*, contains the following: "In the first place, bear in mind that delirium tremens

* Brown-Sequard. London Lancet, Reprint. May 1866.

is one of those diseases, from which recovery may take place, without any assistance from drugs. Medicines are of great use in the treatment—but they are not essential. It is, however, of essential importance, that the delirious patient should be *fed*. The history of the disease teaches us, that the immediate cause of the delirium is the exhaustion consequent on a defect of wholesome nutriment; and until this defect be supplied, all attempts to procure the wished for sleep, which is so generally followed by a cessation of the excitement, are often useless, and worse than useless. An attack of delirium tremens, as a rule, subsides in a few days, without help from medicines of any kind. Let the patient be carefully watched, and guarded, and fed, and the excitement and delirium will gradually subside. In many instances, opium is a valuable aid in the treatment, and it will often cut short the disease; but remember, it is powerful for evil as well as good. Its use therefore requires much care and discrimination. Some form of alcoholic stimulant will often be of great use in calming the nervous excitement and procuring sleep."

These remarks have called forth a few notes on the treatment of this disease, which are the result of long experience and practice, (not theory,) and may therefore prove useful and suggestive to a common sense Practitioner.

Many years of observation had convinced the writer, that cases of this disease, even when seen early, were not happily affected by the treatment usually advised by medical writers, viz., opium in some of its preparations. He almost invariably found, that a patient when seen, even before the development of delirium, if deprived of much or all of his accustomed stimulus, and put upon opium to quiet the nervous excitement which always followed, grew worse. When there was wakefulness, if the doses were large, and often repeated, to induce sleep, several days and nights would often intervene, before accomplishing the desired result. Nervines, such as valerian and hyosciamus, were frequently found to answer the purpose better.

But all such means, whether combined or not, with sedatives such as antimony and digitalis, and appropriate alterative and cathartic remedies, too often disappointed his expectations. Notwithstanding

the patient recovered, the treatment was commonly protracted, and more or less of delirium, that symptom most distressing at least, to anxious friends, was present to torment the patient and attendant throughout. But in the more aggravated cases of fully developed delirium tremens, in which the stimulus had been entirely withdrawn for many hours, or from the use of bad spirits, the distressing vomiting, following a hard spree, had supervened, so that whatever was taken into the stomach, liquor, as well as nourishment, was all alike instantly ejected; the opium treatment, however modified, as indicated above, was quickly followed by violent delirium, and, too frequently, by fatal conjestion of the brain.

After much experience, in the foregoing method of management in these cases, the writer determined upon pursuing an entirely different course. He was persuaded that, in the majority of cases, the administration of medicine was not only unnecessary, but even harmful—that over stimulation had created a necessity for a continuance of the peculiar stimulus in a regulated degree, limited to the nervous excitability which had been induced by its previous use; that the withdrawal of it, while necessary to the recovery of the patient, must nevertheless be graduated and so carefully conducted, as to do no violence to the nervous system. In other words, the idea of treatment is the same as practiced universally by medical men with one addicted to the excessive use of opium.

Patients usually apply to a Physician for treatment, when after a more or less protracted debauch, they find themselves in a state of high nervous excitability, which no power of will can control, and no external means, of which they have knowledge, save that which they know to be the cause of their distress, can alleviate.

The stomach has not yet reached that state when it utterly rejects liquor.

The first step, is to find the exact quantity of stimulus taken by the patient daily, and the kind. Whether it be rum, gin, whiskey, brandy or wine. The former is a point of much nicety, and involves considerable cross-questioning.

"How much do you usually take for a drink?" "Well a pretty fair quantity!" "Pour it for yourself?" It will vary with the subject; in some instances being over two-thirds of a tumbler.

This is given to the attendant, who is requested to measure it b the teaspoon, be it twelve or eighteen spoonsful, more or less. "How often do you take this much?" "Oh, I can't say; just when I feel I need it!" "Do you take a glass before breakfast?" "Of course!" "And after breakfast?" "To be sure!" And about eleven, I suppose?" "Most generally!" "And before dinner?" "Certainly!" "And after dinner?" "Oh yes!"—"Then I find you have taken, in from seven to ten hours, five glasses of liquor. Do you average this during the twenty-four hours?" "Well, thereabouts." "Then a glass every two hours, would be about your proportion, and keep you pretty comfortable?" "Yes, I guess so!"

This point once established, it is a sine qua non, that the personal attendant of the patient be intelligent, obedient, exact, and punctual. The best of liquor is selected of the kind to which the sufferer is accustomed, and as pure as it is possible to obtain. The nurse measures the quantity by the teaspoon, and administers it for the first eighteen or twenty-four hours, in the full quantity, and at the regular intervals to which he is accustomed.

The result is, that the pure article of liquor quiets the nerves, and the patient usually sleeps tranquilly the first night If not, the same dose is persevered in for another day; but after one quiet night, it is reduced two teaspoonsful, and continued, as before, all day, so that in place of eighteen, he takes sixteen teaspoonsful still at the same intervals. The night following, he sleeps as well or better, and the succeding day, a further reduction of two and sometimes four teaspoonsful is made—usually by the third or fourth day, it is found he can be put upon the lessened dose, and at lengthened intervals, say from four to six hours. During all the treatment, he shows, hourly, less and less agitation; but if nervous and unsteady to any great degree, valerian is administered. Within three, or at most five days, by following this simple common sense method, the nervous excitability is kept in abeyance, till, by the gradual withdrawal of the stimulus, the patient finds himself recovered, and the delirium averted.

Of course, during this period, nourishment in some appropriate form, is regularly and systematically administered.

I will cite a single case—that of a gentleman living some hundreds of miles from me, and an utter stranger, till accident threw him into my hands, in a condition, bordering on delirium tremens. Having previously had the malady, and suffered severely from the treatment he had received, he knew well his condition and was burdened with a mortal dread of what was before him.

By adopting the above method of treatment, his convalescence, without the intermediate mental distress and delirium, was as rapid as it was satisfactory. Since then, he has been in the habit of coming to this place and submitting to the same regime, simply announcing himself, "I have come again; the fit was on me, and I started at once." This has lasted for something over three years, the attacks becoming less violent and decreasing in frequency, as the wretched sufferer struggled successfully against the terrible passion. The last time he came was nine or ten months since, after having been absent six months. "I thought," he exclaimed, "that I had given it up this time entirely, but a single glass of champagne set me wild again, and I have been drinking hard for a fortnight."

Since then, I have never seen my patient, and cannot but hope he has abandoned strong drink forever.

Opium has been found, in the words of Prof. Johnston, "to prevent sleep, and make the patient more wakeful than he would have been without it." Cold applications to the head, as the ice pillow, are advantagous, and even necessary in some cases—the sedative qualities of which, it is hoped, are fully appreciated by the Profession at large. As a remedial agent in certain stages of disease attacking the brain, it has no equal.

As to the powers of endurance under such abuses of constitutional strength, every Physician has notable examples. On my list is one patient, who for eighteen years has had from two to four attacks of delirium tremens every year.

The disease is curable, but the passion for drink and excessive use of stimulants in many cases, ceases only when an abused constitution and exhausted nature utterly refuse to rally for a fresh resistance to the strain, so pertinaciously put upon them.

ECLECTIC DEPARTMENT.

"Floriferis ut Apes in Saltibus Omnia Limant."—LUCRET.

I.—HYPERÆMIA AND STASIS—THEIR CAUSES AND CONSEQUENCES.

By GARLAND HURT, M. D., St. Louis.

In the application of these terms we propose to make a slight discrimination, as hyperæmia may apply to an excess of blood in a part, without any retardation of its flow; whereas, if the excess be in consequence of retardation, however slight, or of an arrest of the flow of the blood current, *stasis or hæmostasis* is more appropriate.

In order to discuss intelligently the pathological conditions which we propose to examine, a brief *resumè* of some of the elementary conditions which contribute to the formation and maintenance of the circulation of the nutritive fluids may not be inappropriate.

Of the proximate elements which contribute to the formation and circulation of the blood, water exceeds in quantity that of all the other elements taken together, being on an average in the proportion of about eighty per cent. It also predominates over all the other elements in the composition of the solid structures in the ratio of about seventy per cent. It is true that a considerable proportion of the water found in these structures exists in the solid or demi-solid condition, but a still larger proportion is in the liquid state, constituting them reservoirs of water, a wise provision of nature against a too great and sudden abstraction of the normal quantity of water from the circulating mass of the liquid plasma. For if from any cause the serum of the blood should become suddenly deficient, the tissues and organs contribute of their abundance to supply the deficit.

The blood, that nutritive fluid, whose office is to nourish the tissues, and whose physiological status, if we may so term it, is motion, has been variously estimated at from seven to thirty pounds to an individual of ordinary weight. It derives its motion from the contractile force of the heart and arteries, aided by the expansions of the chest in respiration. This force is opposed by the weight of the blood, the friction of the vessels, and the contractions of the tissues at the capillaries.

In normal circulation it is presumable that the propelling force operates equally and in an exact ratio in all directions at one and the same time, and that the resistance is in proportion to the propelling force at all points; facts which we have assumed as necessary

for the integrity of the circulation and the proper distribution of the nutritive elements. But if from any cause these antagonistic forces should fail to act synergetically, it is inevitable that the integrity of the circulation will be interrupted, and hyperæmia or stasis may ensue, with their attendant morbid phenomena. But if there be merely an increase in the momentum of the propelling force, with a corresponding activity of the assimilative functions, increased nutrition, with normal increase in the products of excretion, will probably ensue; or, if the assimilative functions be inadequate, the products of nutrition will probably accumulate in the blood and degenerate in quality.

But if the propelling force of the heart be met at any point by exaggerated resistance, stasis will probably occur at the point where the resistance is located, while the volume and velocity of the blood current will be increased in contiguous and anastomising capillaries, and hyperæmia and stasis are developed apparently in the same locality, which if at the arterial termination of the capillaries, will be likely to be associated with the group of phenomena denominated inflammation, and the character of the inflammation be determined by the state of the system acted upon, and the nature and intensity of the action of the exciting cause. But if the hyperæmia and stasis be located at the venous extremity of the capillaries, the tendency to inflammation is not so great as is exemplified in intermittent and congestive fevers. Venous hyperæmia may be more or less general, but general or complete hæmostasis, either arterial or venous, is incompatible with life. General hyperæmia would imply an excess of blood in the system, but local hyperæmia may occur in a part at the expense of a normal quantity of blood in other parts.

The want of harmony to which we have alluded between the systolic force of the heart on the circulation and the resistance, does not embrace the incipient ætiology, either of hæmostasis or inflammation, for it is evident that behind these, other causes exists,—which we do not so readily comprehend,—which are referable perhaps more particularly to disordered functional actions of the nervous system. But whatever the primary exciting cause, it is not improbable that similar results may be attained by different modes of action; that is, whether the primary action be that of a stimulant, an irritant, or a sedative, the ultimate consequences may be the same.

Whatever accelerates the circulation is an arterial stimulant, and what retards or reduces it is a sedative; whatever excites pain is a nervous irritant, and whatever reduces pain is a sedative, though it may act as an arterial stimulant. But whatever exalts nervous

or muscular actions may exhaust them, and then their actions upon these functions become sedative, and a failure to discriminate accurately between the stimulative and sedative effects of the exciting causes of disease has given rise to much discrepancy of opinion in regard to pathology and therapeutics. We perceive, then, that hyperæmia and hæmostasis are not primary, but secondary lesions, having originated in functional derangement, which may likewise be secondary, depending upon either appreciable or unappreciable structural derangements of the nervous or parenchymatous tissues, or of the plastic elements of the blood.

Hyperæmia and stasis may terminate in a resolution without serious consequences, but they are not unfrequently progressive, and become the harbingers of other and still more serious structural and functional derangements.

Complete hæmostasis is death. In cholera there is a tendency in this direction, and in proportion to the completeness of the stasis will be the ratio of its fatality, though there are other causes which contribute much to the fatal tendency of this disease. The blood is disorganized, and extensive alterations occur in the alimentary mucous tissue. But whether these are to be regarded as concomitant with the stasis, or are dependent upon it as cause and effect, are questions which remain to be determined by the development of future investigation.

In intermittent and congestive fevers, venous hæmostasis is one of the pathognomonic lesions, but the stagnation is not so complete, nor the blood so rapidly and fatally disorganized, as in cholera. But if their paroxysms continue to occur, not only the blood but the solid tissues likewise soon become the seat of structural change. The lungs, heart, liver, and other internal viscera are engorged with blood, and their functions are either paralyzed or perverted in consequence of the redundancy, while the capillaries and parenchyma of the remote organs and tissues are comparatively emptied.

In the accession of the paroxysm of an intermittent, the hæmostasis occurs first in the pulmonary and hepatic plexuses of the venous capillaries, and is marked by an apparent arrest of the blood *in transitu* through those organs to the arterial side of the heart. But how or why this interruption takes place is not so well understood. Some have attributed it to contractility, and others to relaxation in the muscular and areolar tissues of the parts, induced by an irritant or sedative poison acting upon them either directly through the blood, or indirectly through the nervous system. These phenomena are usually succeeded by others of a somewhat opposite character at the decline of the paroxysm. The restricting cause at the lungs, however induced, finally yields, and the blood which has

been temporarily detained would seem to have become hyperoxydized, for on reaching the heart it is endowed with the power of stimulating it to increased action, and the organs and tissues from which the blood was temporarily withdrawn during the stasis in the lungs seem likewise to have had all their assimilative functions sharpened, and like the appetite in the function of primary digestion, after a temporary fast, they receive the highly oxydized nutritive elements with avidity; constructive and destructive metamorphosis are accelerated; molecular and tissue change is active, and heat is evolved. But as the blood passes on toward the venous termination of the capillaries, it is again arrested, and partial hæmostasis is visible at the surface, and we have the anomaly presented of hypersthenic action in the arterial, with partial stasis at the venous termination of the capillary system.

In the accession of the paroxysm the hæmostasis is in the preliminary fluxus of the nervous capillaries, but at the decline it is transferred to the opposite extremity of the venous system. In the first stage assimilative metamorphosis, both primary and secondary, is interrupted or suspended, molecular action is feeble, and the temperature reduced; but in the second stage, or stage of reäction, there is temporary exaltation of the function of ultimate nutritious; molecular or chemico-vital change is more active, and the temperature is increased.

After the paroxysm, health is apparently reëstablished; but it is apparently so, for there is lassitude, with some degree of pain, amounting perhaps only to a sense of uneasiness at first; but if the paroxysm continue to occur, unmistakable evidences of both functional and structural impairment will be evinced. Some of these may be the result of distension in the organs and tissues from the redundancy of blood in them, as in the spleen, lungs, and liver during the algid stage of the paroxysm, while in other and more distant organs there may be derangement of function from a too long deprivation of blood; and the blood itself may become the seat of structural change. It is asserted that during the progress of febrile intermittents, the blood becomes charged with a species of opaque granules, a fact first brought to the attention of the Profession by Dr. Frerichs, in 1858, and confirmed by the researches of one of our own countrymen in 1865. These pigment granules, as they are called, are probably the residue of wasted blood corpuscles. These red blood corpuscles can not endure quiescence without a loss of integrity; always occupying a central position in the column of the circulation, they move with greater velocity than the lymph corpuscles which float at the circumference of the column.

Doubtless in health these corpuscles disappear gradually by assimilation and absorption in the processes of nutrition, and yield their hæmatine to the permanent colouring of the flesh, but only in the ratio that others are organized to take their place. But in the hæmostasis of algid disease the blood accumulates in some of the important blood forming glands to the utmost distention of their capacity, by which their functions are either suspended or perverted, and the blood corpuscles fail to be endowed with their impress, or their action upon them is pathological instead of physiological. The red corpuscles being endowed for a specific purpose with a transitory entity, yield up their evanescent life in the stagnant blood of the liver or spleen without ever reaching their ultimate destination, or subserving the purposes of their creation, and like the unfecundated ovule, its matters become the products of excretion; or, being acted upon by the perverted functions of the blood glands, they degenerate into the cacoplastic condition, and become the elements of heterologous formations.

The regular paroxysms may by this time have ceased to recur, or they may be imperfectly repeated; the cold stage not being followed by reäction. The functions of the blood glands are so much impaired that new blood corpuscles cease to be found in their normal quantity, or are so imperfectly formed that they are incapable of responding to the stimulus of oxygen in the lungs. The red blood disks gradually disappear; the pigment granules are eliminated, or desposited in the tissues of some of the internal organs; the serum of the blood is in excess; the skin becomes pale or sallow; the flesh transparent, and the patient is anæmic, or rather hydræmic. Organic lesions will have been established in the spleen, liver, heart, or kidneys, offering obstruction to the circulation through them, and creating stasis more or less complete in some of the venous capillaries behind them, which become exhausted and relaxed from over-distention, and pour out their redundancy of serum by exosmosis into adjacent cavities or cellular structures in the form of dropsical effusions, or diarrhœa and fluxes.

Hœmostasis in the portal circulation, consequent upon organic obstruction in some of the large blood glands, as the liver, spleen, or kidneys, impairs the function of primary as well as secondary assimilation; and the imperfectly assimilated nutrient matters, on arriving within the meshes of these organs, whose office is to mould them into homogeneity, and to impart to them the incipient fount of vitalized structural elements, are subjected to chemical action and converted into glucose or starch, or they are thrown back into the excretory ducts and escape by the bowels and kidneys in the form of chyle or albumen; or if they pass through the capillary

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meshes of these glands under the impress of perverted functions, they are impotent for any histogenetic purpose, and become the elements of tubercle or other heterologous desposits.

The causes of venous hæmostasis are various; many of them are obscure and unknown; we may mention marsh malaria, vegetable or animal effluvia; heat; over exertion, mental or physical; over repletion from eating and drinking; sedentary habits, etc.

[*St. Louis Medical & Surgical Journal.*

II—Notes on a Case of Aphasia, with Some Suggestion towards a New Hypothesis in Regard to the Production of that Form of Paralysis. By Joseph G. Richardson, M. D., Union Springs, Cayuga County, N. Y.

Mrs. S. L., aged 51, a lady of nervous temperament and active habits who had been married for thirty-two years, and was the mother of four children, found herself one morning in April, 1859, upon waking, unable to speak at first, but after some minutes articulated the words "can't talk," and from that moment gradually recovered her speech until in a week the inability had disappeared. In three days more, however, another similar attack occurred, accompanied by a partial hemiplegia of the right side, causing her to drag her foot when she attempted to walk, which she began to do after five or six weeks; during the time she was confined to her bed she was able to move both upper and lower extremity to some extent, but complained much of numbness affecting them; the muscular paralysis gradually decreased for a space of three years, as did also her inability to articulate words, but she never recovered the power of reading, writing or counting; there seemed to be no true paralysis of the organs of speech, for she told her friends that the reason she could not talk better was that she could not think of the words; when asked a question she would sometimes reply "yes," and sometimes "no," entirely irrespective of the facts of the cases and often would enunciate one answer after the other repeatedly. Upon one occasion when it became important to have her signature to a deed, it was obtained by placing before her a slip of paper, upon which the words composing her name were written, when she copied them without difficulty, and it is very remarkable that this signature was no mere servile imitation, but her veritable autograph, with all the peculiarities of her own hand-writing, indicating that what she herself declared to be was in truth her sole imperfection, viz: that she could not remember the words.

In February, 1863, she had another attack similar to the second above mentioned, which confined her to her bed for about a month,

during which time she complained much of numbness and suffered severe headache, but was able to move her arm and leg to some extent, and for nearly six months from this time she had, on an average, about every three weeks, a slight attack of numbness (affecting always the right side) accompanied by severe headache, which lasted from twelve to forty-eight hours and passed off under mild treatment.

On the 27th of June, 1865, after a long period of immunity from these seizures, she began to complain of the customary symptoms, which at first did not appear to be more severe than usual, but gradually passed on into stupor and profound coma; after remaining in this state for several days she began to rally and regained partial consciousness, but with her right arm and leg completely paralyzed; her condition improved slightly for about three weeks, but at the end of that time strength commenced to fail, and on the 6th of September death took place. At the autopsy, made the morning after her decease, we found on removing the calvarium a marked depression in the substance of the brain, which presented the appearance of having been excavated over a surface of about an inch in diameter immediately above the termination of the fissure of Sylvius, and involving the island of Reil; it was evidently the result of the absorption of an apoplectic clot, whose place was filled in part by a very loose cellular tissue containing some serous fluid in its folds. The anterio margin of this indentation was about $2\frac{1}{2}$ inches from the anterior corner of the Centrum ovale majus, on the same side, measured upon the surface of the convolutions, and the distance of its superior margin from the edge of the great longitudinal fissure on the same side was about 2 1-4 inches. Further incisions into the substance of the brain exhibited no evidence of softening, although many of the arteries at the base were calcified, especially those composing the circle of Willis. In the left thalamus optici, however, there was a recent clot about the size of a small pea, which had undoubtedly been the cause of her last fatal attack.

Examined under the microscope, with a power of 325 diam., I found the tissue filling the place of the old clot to be composed of fibrillæ, sometimes interlacing and sometimes parallel, formed into bands from .005 to .01 of a millimetre in diameter, and entangling some compound granules and a few crystals of hematoidine. The surrounding structure was nearly healthy, only a few compound granules being observed scattered through the normal tissue. The clot in the thalamus optici and the portions of circumjacent brain presented the usual microscopical appearances.

The theory of that distinguished French academician, M. Broca,

who locates the group of mental faculties which Aphasia involves in the third frontal convolution of the left side, and that of Dr. Dax who circumscribes the localization still more closely, both maintain that the nerve centre presiding over these functions is single, and has its seat in the left hemisphere of the cerebrum, without any corresponding organ in the right side of the brain, but these suppositions although partly endorsed by even such high authorities as Professor M. Trousseau, have been recently contested by Prof. Austin Flint of Bellevue Hospital, New York, and are, I believe, still regarded by a majority of the Profession as *sub judice*, being so contrary to the analogy which holds almost without exception in other portions of the human frame.

Mr. James Paget, in that inexhaustible mine of thoughtful research and deduction, his work on Surgical Pathology, suggests that every idea which we receive is recognized by its producing some infinitely small, but positive alteration in a portion of the brain substance, and that the faculty of remembering depends upon this molocular change being perpetuated through all the permutations of degeneration and repair in the cerebral tissue, where it has occurred so that the mind can at any time again discover it; the mental vision recognizing this cicatrix, as it were, upon the tablet of memory, just as the outward eye might recollect a scar upon the visage of a friend. If this be so, were it not more in accordance with the well known idiosyncracies of nature to conclude that a double organ, one part in the third frontal convolution of *each* hemisphere, exists for the reception of impressions, which in health supply objective phenomena to the powers lost in a true aphasia: and to suppose that these faculties need two separate and distinct impressions, like those of a stereoscope picture, which must be combined into a single image by an effort of the mind for their full perfection; in other words, that as the sense of sight requires binocular vision, in order to appreciate the qualities of relief and rotundity, so the faculty of memory requires the compound of a double impression to recognize the attributes of mutual dependence and relation in the constituent of numbers and words.

On this hypothesis it is evident that were either of these twin centres overpowered by the pressure of a coagulum, that single lesion must necessarily destroy the integrity of the faculties lost in such cases as mine above detailed; and the circumstances that most of the autopsies reported have shown effusion into the convolution just referred to, may be accounted for by the well known fact that the left side of the body is weaker and more susceptible to disease of almost any kind than is its fellow.—*Buffalo Medical and Surgical Journal.*

III.—A New Method for the Treatment of Talipes Varus, without Division of the Tendon. By J. N. Quimby, M. D., Jersey City, New Jersey.

I was called to attend Mrs. Q., Dec. 5th, 1864, who gave birth to a child with talipes varus of the most aggravated form, in both feet, and I resolved to try a method of treatment which I had in contemplation for some time, viz., the stretching process by means of adhesive strips. So, as a preliminary step, a few days after birth, I ordered the nurse to wash and rub the child's feet and legs twice a day for two weeks, with a lotion composed of two parts of water to one of alcohol, and adding to a pint of this solution a half drachm of alum. After this hardening process had been continued for two weeks, I then applied the adhesive strips in the following manner: I used three pieces; one being cut so as to fit and cover the entire sole of the foot. This being applied, the second piece is cut in the form of a paralelogram, an inch and a half wide, and long enough to extend from the hollow of the foot to the knee, on the lower end of which, there is an expansion of three inches, which forms an angle of 80° or 90°, so as to extend from the plantar surface of the toes, to the hollow of the foot, the foot being held in proper position by an assistant. The third piece is cut of sufficient width to extend from the hollow of the foot to the heel, and extending up the leg to the same height as the other. A roller bandage is then applied, commencing at the toes and extending up to the knees, serving to keep the plasters adherent to the limb. During the first two weeks of the treatment, the bandages were changed every day and the plasters twice a week, at the same time pretty thorough passive motion was made. During the third week the bandages were changed every other day, and the plasters only once; and in the fourth week the bandages were changed twice a week, and the plasters whenever they became slackened; and this manner of treatment was kept up for two or three weeks, when the improvement was so great that I found it was not necessary to remove the bandages and plasters only as they became displaced. The treatment was continued for three and a half months, since which time she has worn nothing but a common shoe, and her feet are perfectly restored, there being not even the turning in of the toes, which is so common with children who have suffered from this deformity.

Since treating the above case, I called the attention of Prof. A. C. Post to the method, and he having thought well of it, and having occasion to use it in his own practice, has modified the cutting of the adhesive strips, which I think, in most cases, is or will be an improvement over my own. He uses but one piece, cut something after the manner of his gutta percha shoe; so as to cover the entire surface of the foot with a small projecting tongue, to include the plantar surface of all the toes, and then forming a right angle with the strip, extending it up the outer surface of the leg as high as the knee; then

he encircles the limb with an additional piece of adhesive strip just above the ankle. I was led to this experiment from being called upon to operate on two weak and scrofulous children, where, after complete restoration of the feet, there was and is a weakness of the ankle-joints, which I think may be attributable somewhat to the division of the tendon and to the confinement which is necessary to keep the foot in proper position, which from the pressure has a tendency in a greater or less degree to impede the circulation and retard the development of the limb.

I should like to call the attention of the medical profession to a few important points in reference to this method of treatment.

First: That the feet can be completely and perfectly restored, however aggravated, to all their functions, without the division of any of the tendons; when taken at the early period of from three to six weeks, and without even the turning in of the toes, as in the case with the present subject.

Second: The short space of time required for the perfect restoration, and that all the cumbersome shoes with steel splints, etc., are dispensed with.

Third: That it causes less suffering to the little patients, and is not so liable to cause irritation, ulceration, or sloughing of the integument, as is sometimes the case with other methods.

Fourth: That the utility of this treatment is such, that it is not confined to a few expert Surgeons; but that every medical man, however remote, in his rural practice, may use it with benefit to his patients.

Fifth: I think it has a decided advantage over any other method of treatment with children of a strumous cachexia, as it does not in any way confine or retard the development of the foot and limb, and is therefore less liable to be followed by weakness of the ankle-joint, and that the child can stand upon its feet, if it be old enough, while under treatment, thereby allowing nature to assist in its restoration.—*Med. and Surgical Reporter.*

IV.—FEMALE DISEASES. Read before the Mobile Medical Society, May, 1866: By F. E. GORDON, M. D., Prof. of Obstetrics, Medical College, Mobile, Alabama.

It is a pleasant thought that civilization, which has elevated woman from the mere servant to be the companion of man, has interested in the study of her sexual maladies, once thought degrading, some of the best minds of the Medical Profession. Witness such men as Kiwisch and Scanzoni, in Germany; Paul DuBois and Cazeau, in France; Robert Lee, Taylor Smith and Simpson, in Great Britain; and in the United States, Hodge and Meigs, of Philadelphia, Bedford, Gardner and Gaillard Thomas, of New York; Byford, of Chicago; Miller of Louisville; and in our own City our distinguished President, whose matured judgment and skillful hand are ever ready in her behalf.

I propose to make a brief summary of my experience in some of the more common forms of uterine affections, and hope to be excused for the too frequent use of the pronoun I, which is inseparable from a narrative.

In the first place, let us take a case of acute inflammation, such as we often see in a washerwoman who subjects herself to severe straining in lifting heavy tubs, even during her menstrual periods, not to mention the wetting of the clothes incident to her occupation. Here we have the heat, pain and increased weight of the engorged organ, with distress in the loins and in micturition; and superadded to all these we have constitutional disturbance enough to produce fever. Now what is the most rational course to pursue in subduing the fever and inflammation? If you turn to any treatise on the subject, you will find the first direction is to bleed your patient, if she is vigorous enough to bear it; next, abstract blood from the uterus by leeches or scarification; then purge, use emollient and anodyne injections and apply poultices. Rest in a recumbent position is indispensable under any form of treatment. This reiteration of blood-letting, as the leading remedy, is confined to no particular disease, but is common to all the phlegmasiæ and to many fevers; but, in point of fact, it is a precept "more honored in the breach than in the observance." The topical abstraction of blood but for its inconvenience, would be attended with much less danger to the patient, depleting the organ directly, with a small waste of the pabulum vitæ. But when we consider the repugnance of women to the exposure necessary for the application of leeches, the horror of the animal entertained by most females, and the pain of the bites, we can very well understand how little favor attends this procedure in private practice. Besides our country friends are entirely cut off from this form of local depletion. Scarification is also liable to many of the objections above alleged. It does not relieve the vessels so freely, and by leaving wounds to be healed invites a renewed flow of blood to the parts intended to be disgorged. That this train of reasoning is insensibly adopted by most practical men, I think is proved by the manner in which they avoid these remedies and substitute less disagreeable means. For my part, I do not see why a metritis may not be treated like an orchitis or conjunctivitis, tartarized antimony and sulphate of magnesia in decided doses. Who cares to waste time, to say nothing of the trouble and expense, in applying leeches to the testicle, or, what is more objectionable, in the neighborhood of the eye? On this hint I have sometimes acted, and with the best results; and another remedy in orchitis, the value of which I learned from Dr. Nott, might be pressed into service in violent cases, I mean the tobacco poultice; but it would have to be used with more care on the abdomen than on the scrotum. Really, we know so little of the *modus operandi* of medicines that some of our best practitioners still are in doubt whether the advantage derived from the local abstraction of blood is anything more than the effect produced on the nerves of a part; and I have not observed any great difference in the success of country practitioners, who use cold epithems,

sinapisms and poultices, and our city doctors, who have had the run of the hospitals of London and Paris, and come home profoundly impressed with the inestimable advantages of cups and leeches. Still there are cases where leeches prove of good service, and may be occasionally resorted to with advantage to the patient.

Warm hip-baths, by their repulsive effect, are a great relief to some, and a dose of calomel, by unloading the portal circulation, is at times very beneficial. Anodynes, especially morphia, are great favorites of mine in all cases of pain, irrespective of fever.

In chronic metritis you have a more decided change in the structure of the organ. There is, according to some pathologists, extravasation of blood in the intermuscular cellular tissue, besides the usual lymph deposits of inflammation. I sometimes try the careful exhibition of mercury in alterative doses, and prefer the bi-chloride, 1-16 gr. three times a day. I have tried the tr. antacrida, so much lauded by Dr. Fenner, but most persons complain of the taste of the Canada balsam and oil of sassafras. The effect is the same, being due to the mercury in it. Iodide of potassium in five gr. doses two or three times a day, in comp. syrup sarzæ has answered well in my hands, with the addition of vaginal injections of Lugol's solution in water. I may say that I have thus succeeded, better than with any other means, in combating these troublesome cases. Warm hip-baths and medicated injections are also useful here, and are praised by Scanzoni, as liquefying the deposits preparatory to absorption.

Displacements of the uterus are a great vexation to the physician and they are far more distressing to the patient. Anteversion does not produce as much constitutional disturbance as the opposite condition, for the neck being smaller, exerts less pressure on the rectum, and defecation is less interfered with; while the vesical tenesmus seems common to both affections, and is produced by the dragging on the vagina, independent of the increased bulk of the uterus resting on the bladder.

Retroversion interferes with the regular distribution of the blood through the womb, deranges menstruation and provokes leucorrhœa. It lessens the chances of impregnation, and if complicated with pregnancy, endangers life. It gives rise to a host of maladies, called sympathetic disturbances. It is very easy to diagnose these two affections by the finger alone, and in doubtful cases by the second. In the great majority of them it is likewise easy to replace the organ in position, but it will remain thus only so long as the instrument is in the cavity.

What means have we, then, at our disposal to retain the uterus when replaced? If it be engorged or hypertrophied, it is well to counteract this condition by appropriate treatment. Indeed, some writers think that this is the secret of the whole matter, and that there can be no displacement without an enlarged womb. Dr. Hodge seems to think that, even if this view were the true view, his plan of treatment is the best—"place the uterus in splints," and it will get well—just as a broken leg. But, unfortunately, in many instances the vagina is

relaxed and the ligaments elongated and flaccid. Perhaps the womb, after labor or abortion, has not undergone involution or a proper contraction, and simply lapses by its weight or falls backward. In this latter condition ergot acts well, and as it is usually accompanied by hæmorrhages, I am in the habit of giving it with iron, according to the following formula: R.—vini ergotæ, 2 ounces, tinct. mur. ferri. gtt. 120, m. s.; teaspoonful three times a day in water. In endeavoring to increase the tonicity of the vagina and ligaments, I have used with the best effects a pill thus composed; R.—Pulv. ferri. ext, cinchonæ, ää grs. 30, strychnia, gr. 1. m.; ft. pil. No. xxx.; one three times a day. Injections of sulphate of zinc or alum prove useful by their astringency, and should not be neglected in addition to general remedies.

With regard to the vexed question of pessaries, I may say that I have set out with strong prejudices against them, but ultimately determined to try them fairly. I soon found that in my hands none of them would hold the organ in position, except the intra-uterine of Simpson or Valleix, the latter being more easily introduced. But I found that, in spite of the assurances of these gentlemen, but few women could tolerate the instrument, and that they had to be subjected to confinement and deprived of exercise; and that, even with these cautions, there was some hæmorrhage or leucorrhœa induced by its irritating effect on the cavity of the uterus, and, after all, the discomforts attending the wearing of it for a month or two, upon its withdrawal the displacement returned. Dr. Hodge's horse-shoe, which is a modification of the elastic ring pessary, is a great favorite here. I confess that, after many trials, I have not been able to succeed with it; it either presses up too much on the bowel and impedes the passage of the fœces, or down towards the pubis, the end of each leg being an irritating point. The hard-rubber bow pessary, a new form of the closed lever, is the fashion at present, but is liable to the same objections. The yielding nature of the elastic ring allows the unloading of the bowels, and yet distends the vagina enough to push up the uterus. I have, however, seen it embedded in the vagina, granulations having entirely closed over one-half of the circle. The name of pessaries is legion, and each has its advocates and its advantages—the soft sponge and air cushion, in irritable condition; the globe, for anteversion; the pessary of Dr. Heard, which came near amputating the neck of the uterus for one of my patients, but which I find figured by Moreau in his atlas, looks as plausible as any other. There are also pessaries like Schilling's, dilating the posterior wall, and some attached to an abdominal supporter, a good way of support in extreme prolapse. This latter instrument, after having been tabooed by the Profession for many years, seems to be gaining ground once more, and is favorably mentioned in the two most recent works on Gynecology that I have seen. It was one of the few jokes ever told of Professor Hodge, that he had dubbed it before his class "the abominable supporter." The pressure of a pad over the pubis taken off the weight (super-incumbent) of the abdominal viscera, and, by fixing the uterus, prevents the pain of jolting it. It ought to be more useful in anteversion than in retroversion,

as the pressure reaches more readily the front. I have used lately an improvement on the bow pessary, which has the power of elongating or shortening itself, to suit the changes of position. It is very ingenious, and I think, from a trial of it in several difficult cases, worthy of attention.

I think I have derived benefit from swabbing out the cavity of the uterus with perchloride of iron. By winding a dossil of lint or cotton around the sound and saturating it with the solution of full strength, it will be found easy of introduction. Probably the greater portion of the iron is lost in the cavity of the neck by the compression of its orifices, but a small part of it remains on the cotton, even after its withdrawal, and from its constringent effect on the cavity must be of service. It is very noticeable that the irritable condition of the organ is lessened by this plan, much as we see in stricture of the urethra after bougies; and uterine colics are less severe and frequent, probably more from the dilatation than from the topical medication.

I have cured two cases of extreme prolapsus of recent origin; in both cases the womb, protruding between the thighs, and one of them menstruating in this condition while confined to the hospital, by the use of the ring pessary. In one of them I used Sim's flexible metal, and kept it in until pregnancy was three months advanced. I have very little encouragement to give from my experience with old cases. Operations on the vagina by neither knife nor caustics have given satisfaction, and they are painful and hazardous. Amputation of the cervix has been tried by Hugnier and Chassaignac, and with good results. Dr. Nott has operated for me on two cases with enlarged necks. One of them was much benefited for a time, say six months, but the hypertrophy is returning; the other is a confirmed case of hysteria.

Flexions of the uterus are still more unpromising than versions. Late investigations seem to show that a softening of the tissue takes place at the angle formed by the bending of the organ. All the symptoms of version exist, and the interruption to the circulation is greater, and the egress of the catamenia more difficult. The body of the uterus is enlarged, and contains fluid—often blood or a thin mucus amounting to hydrometra—though I have never witnessed the immense distention that obtains in other forms of uterine disease. It has been proposed, in cases of confirmed flexion, where it is impossible to straighten the womb, and when, if practicable, the force exerted would rupture the fibres and produce metritis, to divide the internal os; and some have gone so far as to practice an operation for making a new channel more direct and open than the old one. It is consolatory, in view of the hopelessness of radical cure of this affection, to record the opinion of Scanzoni, that "flexions of the womb do not acquire any importance, nor are followed by any serious dangers, save when they are complicated with an alteration in the texture of this organ." His recommendation is, to apply a few leeches every week or two, in hope to relieve engorgement and the pathological changes that result, and by subduing inflammation to keep the patient comfortable. He cites

several cases, where the autopsy proved the existence of this condition, and where patients dying of other diseases had never been seriously incommoded by this mal-organization. I had an instance lately, of a lady who came to this City for advice which strongly corroborates this opinion. She has been married twice, and, as one would naturally suppose from her history, sterile; but she is now upward of thirty, and though delicate, has menstruated scantily, but regularly, and enjoyed a fair share of health, with but two exceptions—one about six years ago and again recently—both probably inflammations produced by cold or fatigue, to which the flexion predisposed. This is the most extreme case of anteflexion I have ever seen, and conveys to the touch the feeling of a tumor along the anterior wall of the whole vaginal canal. Besides attempting to subdue inflammation, I divided the posterior lip freely, as the external os was impervious even to a small sound. She now menstruates with more ease, and I hope may become pregnant.

There occurred some months ago quite an interesting discussion before the Obstetrical Society of London, on the subject of dysmenorrhœa. Drs. Sims and Bennett had previously discussed it in the *Lancet*, the former contending for its purely mechanical origin, and advising free division of the neck of the uterus by the scissors, as the remedy. In this form of difficult menstruation, Dr. Simpson's mode of operation, by a mere linear incision through the strictured parts, seems to be free from the dangers of hæmorrhage, and equally successful as the other. In the course of the discussion very few of the surgeons present, and they were the ablest obstetricians of London, were willing to admit that they had divided the internal os. In the few operations that I have performed of this character, I introduced the uterotome an inch and a half before cutting, and thought that I had failed in completing the cure, when the instrument did not penetrate to this point. I have had two striking instances of the benefit of this operation, in ladies who have been subjected to treatment for years under the most intelligent physicians. In both the impregnation took place a few months after the incision.

But, unfortunately for the sex, dysmenorrhœa is due to many other causes, such as derangement of the digestive organs, gouty or rheumatic diatheses, hysteria or neuralgia, inflammation of the os, and from ovarian irritation. It is very plain that nothing less than an appreciation of the cause and an attempt by constitutional and other remedies to remove it, can prove efficacious. We have all had our tilt with "irritation uterus," and few of us have come off any better than Don Quixotte with the wind-mills. Some women are so constitutionally nervous, that as soon as the period approaches, they become chilly, with cold feet and clammy hands; pain reaching along the ligaments to the ovaries; distressing nausea and retching. Again we have others with repulsive pains and contortions like those of childbirth, in which patches of membrane of greater or less size are forced out with temporary relief. Tyler Smith suggests, that during the monthly nisus, the epithelium lining the cavity of the uterus slowly melts away, and the blood gently flowing from the denuded surface constitutes the

catamenia. If this be the physiological condition, anything that interferes with this periodical moulting and causes it to come away irregularly and in flakes, may give rise to the pain and attendant phenomena. In such cases the plan of swabbing the uterine canal, in the manner alluded to above, I can safely recommend. It is equally useful when menorrhagia succeeds the dysmenorrhœa—a thing of not unfrequent occurrence. Iodine and iron are the substances preferred, according to the effect desired, whether alterative or astringent.

Uterine leucorrhœa has for its source of supply the glands of the cervix. It has been abundantly proved that these glands, in a normal condition, secrete a bland fluid like the white of an egg, just enough to plug its canal. Inflammation, from whatever cause produced, excites a greater flow of this secretion, and it becomes more highly coloured and sometimes tinged with blood. If this is allowed to go on, the discharge becomes more acrid, and excoriates the os as it trickles over it, removing the epithelium and causing those abrasions called ulcers, more or less superficial, according to the time of their duration. The blood vessels which supply the lining membrane of the cavity being in communication with those of the parenchyma, we often find the two structures simultaneously affected. It is in this affection that caustics, such as nitrate of silver, acid nitrate of mercury, and the like, have gained a deserved reputation. There is no other plan by which you can reach the diseased surface with equal facility and accuracy. Some prefer the silver in substance; some in solution; some in ointment; while others like nitric acid or the acid mercury. The mode of applying these substances, whether lightly or more severely, makes one answer nearly as well as the other. In inexperienced hands, certainly the nitrate of silver is the safest. Perchloride of iron, where there is a feeble and lax state of the parts, is equal to any of them.

In controlling menorrhagia resulting from intra-uterine fibroids, I wish to record my decided conviction of the value of bromide of potassium; that it also lessens the pains attending this condition, I have satisfied myself from the observation of several bad cases. In the reäction which must follow the present tendency to overrate the value of a new remedy, I hope its usefulness here will not be overlooked. I observe that in Germany, where this practice originated, from the success attending the use of waters containing bromine, both internally and for baths, Scanzoni classes bromide of potassium with the iodide of the same salt, and does not rely on it in these tumors. There is one remark that he makes which deserves attention, and that is to this effect—that the enlargement of the walls of the uterus which attends fibroid growths, is influenced by alteratives, but not the tumors themselves.

With regard to such tumors as are developed in the parenchyma of the womb (interstitial), or such as crop out on the exterior (subperitoneal), I have seen no operations attempted. In two cases of large fibroids attaching to the fundus of the uterus, I have attempted operations. The first was a lady from the interior, of naturally fine

organization. She was reduced to extreme anæmia, from the long continued and excessive hæmorrhage, and had waited a long time for the tumor to descend into the vagina, so that it might be ligated; but as she was nearly exhausted and longed for relief, her physician gave her Meig's chapter on the subject, in which he says he sent a patient home, with the assurance that she must prepare to meet death with equanimity, for an operation within the uterus was hopeless. By means of a double canula, like Gooch's, with a screw attached to tighten the thread, the tumor, about the size of a medium pear, was strangulated and dropped off on the third day. During the time between its ligation and expulsion, the lady was hovering between life and death, with a flickering pulse and ghastly countenance. Our chief reliance was brandy and opium. She afterward reäcted, and is now a stout and rosy-faced woman. The other case was not so fortunate. She had been for years suffering with menorrhagia, and metrorrhagia latterly. She had not been examined for years and generally used her own domestic remedies for checking the flow. At last she assented to the request of her daughter to have an examination made, and I found a very large intra-uterine fibroid. As death was imminent, I advised her, as her only chance, to submit to an operation. Dr. Nott very kindly assisted me in the attempt to remove it. The pedicle of the tumor was so short and broad, and its attachment so high up the fundus, as to make it one of the most difficult manipulations to throw a ligature of any description around it. We tried annealed wire, thread, etc., and finally, upon tightening the wire when we thought we had included the tumor, the ligature snapped. The *écraseur* was tried a second time, after a few days' rest. A large wire was with difficulty applied, and upon attempting to cut through by steady traction, it gave way. Here we abandoned the operation. Great constitutional disturbance ensued, with deadly pallor and nausea. The discharge from the vagina became darker and more offensive, and about the third day I found the tumor detached and decomposing. But before I had the means of extracting it, she was sinking so rapidly that I thought it advisable not to disturb her. I forgot to say that the tumor was as large as a small cocoanut, and the *cervix uteri* had entirely disappeared by expansion; but we were compelled to make an incision about two inches in length from the *os*, in order to facilitate the operation. In this case, and perhaps in both cited, the knife would have been safer, for the hæmorrhage might have been controlled by plugging with perchloride of iron, and we could have avoided the stench and poisonous influence of the decomposing mass.

The more I have been called on to treat diseases of this character, the stronger has grown my conviction that organic diseases, involving a change of structure, admit too often of only partial relief. He must be a bold man who promises a cure under such circumstances. In acute diseases, especially of the self-limiting kind, nature is competent to relieve the system, if you wisely assist her efforts, or even refrain from mischievous interference.—*New Orleans Medical and Surgical Journal.*

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

Clinical Notes: Diphtheria. By L. U. Mayo, M. D., Buchanan, Botetourt County, Va.

I cannot refrain from sending you the following notes of a case of diphtheria. This I do, not because of anything remarkable in the termination of the case, nor on account of anything new, peculiar or original in my treatment of it, for since the publication of the exhaustive essay on this subject, in the pages of this Journal, by its Senior Editor, there is no room for this; but it is done in the hope, that the publication of it may have its influence in preventing the commission of egregious errors in future practice.

On the 7th instant, I was requested to see Mrs. S., æt. 43, in consultation. Was informed that one week previous she was taken with headache, chill, slight fever, nausea, vomiting, soreness of throat, dysphagia, with some pain in the left side of the chest, in the cardiac region. From these symptoms the attending Physician made out a case of "inflammation of the heart," for which she was cupped, blistered, puked, purged and salivated.

I found her propped up in bed, almost gasping for breath; face swollen and livid; (she had a very large gaitre) great prostration; pulse 130. On examination of the throat, the tonsils and uvula were found to be very much swollen, the left tonsil entirely covered by diphtheritic membrane, which was tough, dark-coloured, almost black, tongue covered with thick, dirty, whitish fur, and broad and flabby. Cervical glands of left side swollen and painful, and great difficulty of swallowing. Could not discover any indications of endo or pericarditis or effusion, but did find some pneumonia.

The conclusion I arrived at, was very different from that of her attending Physician—viz: that I had a very unpromising—probably a fatal case—of diphtheria to contend with. I accordingly discontinued, in toto, the treatment, which was calomel and opium every

four hours, and teaspoonful doses of epsom salts, four times a day, and ordered, in lieu thereof, Tinct. Ferri. Chlor., gtts. 20, every four hours, with a gargle

℞—Potassae Chlor., ℥jss.
Aqua, ℥viij.

of which she was also to take one tablespoonful every four hours. Also ordered the most nourishing iquid diet and egg-nog.

As local applications, I used the following to the outside of the throat, and to the swollen cervical glands:

℞—Linmt. Ammon. Fort., ℥iij.
Ol. Terebinth, } aa. ℥ss.
Chloroformi., }

and insufflation of finely powdered alum to throat and fauces.

I used the alum in preference to other local applications to inside of the throat, for the reason that in the epidemic of this disease which visited this County in 1860 and 61, it appeared to me to be of more service than nitrate of silver, ither in stick or solution, or the application of any of the mineral acids or any other substance of similar properties, it appears to dissolve or break down the membrane, and cause it to fall by its own weight. At any rate, in the numerous cases of the disease, which I then treated, I was more successful with it than with anything else. I left the pneumonia to take care of itself, directing my whole attention to sustaining the patient.

Other engagements prevented me from seeing the patient on the next day. I however saw her on the 9th instant.

She can now assume the recumbent posture; pulse 100 and fuller; the first two or three applications of the alum caused large quantities of the membrane to be thrown off. Drowsy—in a semi-comatose state—bowels moved six or eight times in last twenty-four hours. Discontinue Potass. Chlor. internally; continue other treatment. Should bowels continue disturbed, give enema of ℥ij. Beef Tea, with thirty-five drops Tinct. Opii. after each motion.

10th.—Passed a restless night; five or six motions from the bowels. From some unaccountable cause, the enema was not given, nor did she receive any nutriment or medicine from midnight to 11 A. M., to-day, when I saw her. I had the enema with Tinct. Opii.

administered at once, and remained with her the balance of the day, administering, myself, the medicines and nutriment alternately every hour. She was much prostrated; pulse had risen to 136.—One grain of quinia was added to the iron mixture, and enemas of beef tea given.

For the next three days scarcely any change was perceivable in the condition of the patient.

14th.—Some slight improvement perceptible; pulse 100; looked at throat to-day; swelling almost gone; one small patch of membrane on inner side of left tonsil, and is whiter and thinner. Bowels moved once last night; natural in appearance and consistence; complains of the want of sleep. Ordered the room to be darkened and kept perfectly quiet, and added 25 drops of Tinct. Opii. to each dose of the Iron and Quinine mixture. This I did to induce sleep, and to allay irregular nervous twitchings or spasms. Returned to Chlor. Potass. internally; continue use of enemas beef tea, three ounces every four hours, giving it with egg-nog or milk toddy also by the mouth.

13th.—Has had two or three short naps, on awaking from which she expressed herself as feeling better; pulse 100, one motion from the bowels; spasmodic twitchings somewhat abated. She refuses to take the Iron; discontinue it and give Quin. Sulp., 1 gr., every hour. In all other particulars continue treatment. At sundry times in the treatment of the case, hot flannels, mustard plasters and warm spirits turpentine were applied to the extremities.

On 16th she died after having given manifest evidence of improvement during the treatment.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

PARIS, March, 1867.

At a recent meeting of the Society of Surgery, a memoir of Dr. de Saint Germain was read upon a syphilitic accident, styled "chancrous erosion," and which M. Bassereau had noticed in 1862.

This erosion differs from the ordinary infecting chancre, by the fact of its being a simple abrasion of the skin or of a mucous membrane, in which the most superficial layer is alone destroyed. These excoriations cover a surface whose extent varies, and even when large, they are but seldom indurated, offering thus a marked departure from the chancre described by Ricord and others, in which the ulceration is hollowed out so as to form an excavation which is environed by an induration. In the "chancrous erosion," on the contrary, the ulceration may be, and is often extensive, and besides not being indurated, it is also superficial, removing merely the epidermis or the epithelium. The "chancrous erosion" is speedily attended by constitutional symptoms, and in those observations in which Dr. de Saint Germain had the opportunity of following the accidents through their different phases, he noticed the syphilitic manifestations to be, generally speaking, severe. On this account, the author of the memoir enquires whether it would not be prudent to commence the anti-syphilitic treatment as soon as the presence of the "chancrous erosion" be remarked. M. Dolbeau, who was charged with the duty of presenting a report upon Dr. de Saint Germain's memoir, taking the ground that mercurial treatment does not prevent the secondary accidents from appearing, objects to the plan proposed, viz., that of administering mercury as soon as the erosion is noticed. This remedy, according to M. Dolbeau, far from preventing the manifestations of syphilitic symptoms, serves merely to disturb and impede the natural course of the disease, whilst expectation, on the contrary, can do the patient no harm. Since the chancrous erosion is followed by forms of syphilis as malignant as any observed to attend the ordinary indurated chancre, why apply in the former case a treatment which is recognized to be of little use in the latter? and if this erosion corresponds, as some pretend, with a mild form of syphilis, is there not a still stronger reason for abstention. Arguing thus, M. Dolbeau finds himself led to put the two following questions to the Society: must syphilis be treated? and if so, what is the method of treatment to be adopted? Contrasting the comparatively mild syphilitic disorders, remarked during the present century, with the terrible ravages of the same affection at the time

when it first spread throughout Europe, it seems a rational idea to admit, that if the accidents are less destructive now than they were formerly, their diminished intensity is due to a degeneration of the syphilitic virus, which, however, under certain favourable conditions, dependent upon individual causes, still possesses a trace of its former energy manifested by the severity of the symptoms displayed. As syphilis seems to present three different types of intensity, so M. Dolbeau proposes to let the malady run on unchecked, in order that it may be possible to judge of the nature of the particular case under observation. When secondary symptoms appear, most Physicians give mercury; this practice M. Dolbeau has abandoned, for when he reflects upon the numerous instances in which a chancre is followed by roseola, and then the action of the virus goes no farther, or when he recalls to mind the numerous cases he has seen of syphilis arrived at the tertiary period without ever having been treated, he is obliged to ask himself of what avail is the mercurial treatment, especially as the tertiary accidents are so readily mastered by the hydriodate of potash? The "hospital de Lourcine" is destined to receive women of the town, and it often occurs that the same patient is admitted several times; during his stay in this institution, M. Dolbeau in his quality of medical attendant had occasion to see many women who had been submitted to the mercurial treatment by his predecessors, and although preparations of this substance had been repeatedly handled, yet in many cases, the accidents remained uninfluenced. In presence of such results, M. Dolbeau asks what benefit was derived from the treatment employed.—Reviewing the double idea that nature left to its own resources will frequently suffice to eradicate the disease, and that in the hospitals many cases offer, where mercury has not been given, and where the tertiary symptoms yield easily to the effects of the hydriodate of potash, the reporter concludes that there need be no scruples of conscience in not giving mercury, which may modify syphilis and may retard its evolution, but which is powerless to cure. On the other hand, if it be admitted that syphilis left to itself has a natural channel, whose course it will, when unimpeded, most frequently follow until the tertiary period be reached, why not be content with

making local applications until the tertiary symptoms present themselves, especially since it is known that the hydriodate of potash easily obtains the upperhand when the disease has attained the third stage. Taking this fact into account, and having remarked that mercury is devoid of power to procure exemption from recidivation, M. Dolbeau has abandoned the treatment of syphilis by this agent, and he takes no action, save locally, to moderate inflammation, &c., until the third stage appears. After having thus expressed the little confidence mercurial preparations inspire, owing to the little reliance which can be placed on their action, M. Dolbeau says that he was induced by the statements of a friend to try the bichromate of potash in a case where even very small doses of mercury, administered with great precautions, were not tolerated. After having been successful several times in private practice, he resolved to make an experiment at the "hôpital de Lourcine" in order to test the merits of the bichromate of potash compared with the effects of the old treatment, and for this purpose all the patients in one of the wards were submitted to the exclusive use of the bichromate of potash, whilst for the women, in the other portions of the medical division under his orders Van-Sivieten's liquor was prescribed. In all these instances the accidents disappeared, and it was remarked that the persons who had been treated by the bichromate of potash remained *longer* in the hospital than those who had taken mercury. At the "Lourcine," the population comprises a limited number of individuals, that is to say, the same women usually return more than once to the wards, and this being known, care has been taken to keep an exact register in which the admissions and discharges are marked. Thus it is possible to follow *particular* cases, if recidivation happens. M. Dolbeau has consulted this register, and out of one hundred and thirty-one syphilitic cases he treated at the "Lourcine" in 1865, he gave mercury in eighty, and the bichromate of potash in fifty-one instances.—Forty-four among the eighty women, to whom mercury had been given, have since returned to the hospital labouring under a reäppearance of syphilitic accidents, whilst out of fifty-one females treated by the bichromate of potash, there have been only thirty cases of recidivation. M. Dolbeau in presenting the foregoing

numerical results, states expressly that he abstains from drawing conclusions in favour of the bichromate of potash, whose adoption, even if it be proved that this substance has no action upon syphilis, has however been unaccompanied by any complication, and has not prevented the symptoms from disappearing, so that the following questions may be asked: Is the bichromate of potash an anti-syphilitic, or has it no power to combat the infection? If an anti-syphilitic quality be admitted, then the bichromate, which does not present the dangers of mercury, is preferable to this last agent. If, on the other hand, the anti-syphilitic virtue be denied, then the conclusion to be drawn from those cases in which the exhibition of the bichromate was followed by the disappearance of the disease, is that syphilis left to itself can be cured without any treatment whatever. It is this last idea which has induced M. Dolbeau to abandon mercury, for although he has seen cases terminate successfully when the customary treatment was employed, still he has many observations in which the malady reached the third stage before any effort was made to arrest its progress, and here the hydriodate of potash always gave good results. So that, considering the deleterious effects mercury frequently produces, he has abandoned its use, being convinced that it does more harm than good, and delays the advent of tertiary symptoms. Meanwhile, and until the appearance of this ultimate period, he gives the bichromate of potash, which, if unattended by success, has at least seemed to him to present none of the disadvantages encountered in the administration of mercurial preparations. In every instance, however, when tertiary manifestations are remarked, M. Dolbeau falls back upon the hydriodate of potash, which is their sovereign specific.

At the Medical Society of the Hospitals, a debate has taken place upon those rheumatic accidents which are noted during the existence of gonorrhœa. M. Peter, in resuming the principal opinions which had been discussed, assumes that the rheumatic accidents are not due to gonorrhœa, which, on the contrary, is merely the consequence of a rheumatic or scrofulous predisposition. M. Fournier endeavoured to explain this complication by a species of reflex action reflecting back upon the articulation, the malady of the urethra, but, as M. Peter remarks, if a reflex action be admitted, it

should be guided by laws which, like those of natural philosophy must be necessary, and whose execution cannot be liable to suspension. Here, nothing of this obligatory and forced action takes place, as the greater number of cases of gonorrhœa, are not accompanied by rheumatic manifestations, and when the two disorders are observed simultaneously, it is often noteworthy that a copious discharge coincides with almost insignificant articular symptoms, or vice versa, and in this last instance comparing, as M. Peter does, the gonorrhœa and its consecutive rheumatism to the physical laws which govern the relation existing between a sound and its echo, the echo would be louder than the sound it repeated, when the articular disease is very intense and the urethral inflammation slight. Taking the converse of the above proposition, and considering the malady of the urethra to be the effect, and not the cause of rheumatism, it at once becomes possible to find a more plausible explanation for this question, which remained so obscure under the theory of a reflex action. In support of the new view, there is an argument which it is difficult to combat, and which is furnished by the fact, that there is no difference whatever between the accidents observed after gonorrhœa, and the form of rheumatism, which is the most common. Rheumatic affections of the eye have been demonstrated beyond a doubt, and it has also been proved that rheumatism settles itself occasionally upon a single joint with great tenacity, and that it may result in the abolition of the functions of the articulation which has been attacked, just as the same disorders are observed to coincide with gonorrhœa. The cause of the error, assigning these mono-articular troubles to urethral disease as to their origin, has probably arisen from the fact, that specialists observing a single joint to be attacked during the course of gonorrhœa, were led to attribute the malady of the articulation to the affection of the urethra, owing to the numerous instances which almost daily present, and where the former appears after the flux has been fairly established, i. e., "post hoc ergo propter hoc." If it be remembered that this pretended rheumatism of gonorrhœa has no distinguishing marks, the idea of reflex action due to the urethra is far from being satisfactory. On admitting the articular troubles, remarked during the course of gonorrhœa, to proceed from the rheumatic diathesis, then the urethra and its

inflammation become agents, which, like exposure to cold, a contusion of a joint, &c., are endowed with the power of provoking articular manifestations upon a subject already under the influence of the rheumatic diathesis, which has a disposition to show itself on every convenient occasion. In this manner, it is easy to understand the appearance of those repeated urethral discharges, which are each time accompanied by a diseased condition of the joints; for these discharges have been presented by persons labouring under the rheumatic diathesis, and on this account, here the gonorrhœa itself may be styled rheumatic, as the affection has found vent, so to speak, by means of the urethra, which has been the provoking cause of the articular manifestations. Rheumatism being a general malady, a disease affecting the whole organism, the idea of a rheumatic urethral discharge, is as worthy of acceptation, and as rational as the belief in rheumatic ophthalmia, and in rheumatic granulations of the larynx. What is true concerning rheumatism, holds good also for scrofula and other affections, and as these pathological states may occasionally coëxist with rheumatism in the same patient, it follows that the gonorrhœa and the articular disorders assume, to a certain extent, a scrofulous or other appearance, according to the nature of the affection with which the organism is afflicted. In cases of this nature, the local malady of the urethra acts as an excitant to stimulate and produce manifestations of one or more general affections which are hidden, and the action of gonorrhœa can be compared to that of a damp and cold atmosphere which brings on an attack of rheumatism. When several of these affections exist together, they modify each other respectively, and the general result is to give a particular colouring to the urethral discharge, which may be treated in vain for years, unless the idea that the flux is under the sway of one or more general diseases causes the proper plan of treatment to be adopted. M. Peter therefore represents a large class of French Physicians when he admits that gonorrhœa may be of several species—that there is a local inflammation of the urethra due to rheumatism, one controlled by gout, and another arising under the reign of a scrofulous or lymphatic disposition, &c. He gives, in support of this view, two observations which I will detail briefly. A professional friend

related to him the history of a young man who had been suffering from gonorrhœa for five years, and who had consulted eminent specialists, without deriving benefit from the different therapeutical agents which had been employed. Being acquainted with the family, and knowing that the father was subject to gout, the medical attendant was led to suspect that the young man might be affected also by the same diathesis, and on examining the urine, the presence of an excessive quantity of uric acid confirmed the idea. The patient was sent to try mineral waters appropriate to the treatment of gout, and this plan proved completely successful, as the discharge disappeared in fifteen days, and although six years have since elapsed, still there has been no return of this malady. This observation, as M. Peter remarks, is extremely interesting, showing as it does, the influence the diathesis had upon the local disease, and how a treatment appropriate to gout acted first upon this, the general affection, and secondarily upon its local manifestation, the urethral discharge. The history of another case is also given, in which the urethral discharge was due to an herpetic disposition, and was speedily cured by the use of sulphurous mineral waters.

The conclusions drawn from the debate are, that gonorrhœa, which is a local malady, cannot be considered to be a diathesis; that the great tendency which some persons manifest towards urethral discharges finds its explanation in the existence of a rheumatic diathesis, and the frequent recurrence of gonorrhœa, in such cases, should be attributed to this diathesis, just as this affection is considered as being the primary cause of ophthalmia, etc.; in other instances, that scrofula, gout, etc., play the same part, and have an influence similar to that of rheumatism upon gonorrhœa, and that it is frequently an easy task to assign this local disorder to its true origin.

The Medico-Psychological Society of this City, taking advantage of the Medical Congress to which the exposition of this year has given rise, issues an invitation to all those persons who desire their attention to medico-psychological studies, requesting their presence at a series of extraordinary meetings to be held at the Faculty of Medicine of this City, on the following dates, the 10th, 15th and 14th, August. As the Medical Congress will open in the third

week of August, these extraordinary sittings will serve as a preliminary step towards the Congress. Besides the above, the usual meetings of the Society well be held as follows—viz: on the 20th April, 13th and 27th May, 10th and 24th June, 15th and 29th July. The same invitation is also extended for these sittings.—The Association of Physicians of the lunatic asylums in the United States, the English Medico-Psychological Association, and a German Society are specially invited. Entire liberty, as to the nature of the memoirs and communications, is left to each individual, provided, however, that the subject of Medico-psychological investigation be not discarded. Still the French Society recommends the following points:

1st. The legislative enactments and the mode of assistance applicable to lunatics in different Countries.

2d. The relations existing between lunacy and public and private education.

3d. The ascertaining upon what grounds a correct statistical table of lunacy may be based.

4th. The anotomical alterations of the nervous centres, observed in the different varieties of mental disease.

The progress due to the microscope in this branch of Science, will be particularly investigated.

The Faculty of Medicine, of this City, has presented, at the opening of the Spring term of lectures, a series of disturbances.—The new Professor took possession of their respective Chairs, and as the Government has done away with competitive examinations for the title, the advent of M. Sée, who, without having been previously connected with the School, was recently named to teach therapeutics, gave rise to some disorder. Taking advantage of the circumstance, *materialism* was proclaimed in the amphitheatre, and several of the Professors, who avowed their adhesion to this deplorable doctrine, received an oration from the Students. The first lecture of M. Sée, owing to the fact of his having obtained the position in a manner, which was considered injurious to the rights of the supplementary Professors, was interrupted during three-quarters of an hour, by a crowded amphitheatre, determined not to let the Professor speak. At last, a Student, who had attended the

Congress at Liege, succeeding in making himself heard. This gentleman then said, as two other new Professors, MM. Broca and Velpeau had been enthusiastically received on account of their profession of materialism, he thought all secondary considerations should be laid aside, and a similar welcome be extended to M. Sée, who was also a materialist. This idea was immediately received, and M. Sée was greeted with deafening applause.

Thus it would seem that the doctrines of materialism are to be publicly taught in the School of Paris. This teaching causes pain to many, and it is to be regretted that so large a majority of the Students, and so many of the Professors, entertain such views.

T. L.

Fracture of Base of Skull—Case of Fracture of Skull with Depression—Question of Trephining—Catheta broken in Urethra—Treatment of Stricture by Potassa Fusa.

London, March, 1867.

In a previous communication, I brought forward some cases of fractured base of the skull, in which recovery took place. I can now add four, which I have had the opportunity of seeing quite recently in hospital, three of which have been discharged convalescent.

Case I.—J. B., æt. 50, a blind maker, was thrown from his cart and pitched on his head and shoulder. There was some concussion, though not very marked; but there was bleeding from the left ear, no laceration of the meatus being visible. There was no paralysis of the portoi dura at the time, and no positive evidence could be obtained of injury of the portio mollis, as he had been deaf on that side from childhood. A good deal of headache followed the accident, and serous oozing continued without intermission, though in gradually decreasing quantities, for five weeks. At the end of that time he appeared to be well. Seven days after his accident some flattening of the left side of his face was noticed, and that remains up to the present time.

Case II.—J. E., æt. 27, a labourer, fell, while under the influ-

ence of drink, from a window about 14 feet high, and cut his head severely over the upper part of the right parietal bone. At the same time a quantity of blood came from the right ear, which could not be traced to have any communication with the scalp wound or any laceration of the meatus. Serous oozing followed, and continued for four days, but no symptoms of facial paralysis occurred. He was discharged cured in 24 days.

Case III.—J. S., æt. 32, a coachman, fell about 12 feet from a hay-loft, on his shoulder and head, fracturing his clavicle, and bruising his scalp. There was bleeding from the ear on admission, but no laceration of the meatus visible. There was no paralysis or deafness on the affected side, beyond what was temporary from the bruising, and a quantity of blood in the ear. He had, however, considerable pain lasting for several days, and oozing of serum continued in large quantity for 14 days.

Case IV.—F. T., æt. 11, was admitted two days ago, having fallen a distance of about 15 feet, pitching upon his head. On admission he was in a state of severe concussion, and bleeding from the left ear freely. Soon after he began to vomit, and brought up repeatedly a quantity of blood. The face is too bruised at present to be able to give any positive opinion with regard to paralysis. Oozing from the ear continues. One peculiar feature in this case is that the limbs were much flexed when he was admitted, and remained in a state of not very rigid flexion for about 24 hours.

Although in these cases, there was no conclusive evidence of injury to the seventh pair of nerves, I have not hesitated to consider them true cases of fractured base, for the absence of those symptoms of deafness and paralysis merely indicates the absence of any fracture through the petrous portion of the temporal bone, whereas the extent and duration of the serous oozing must, I, think be considered conclusive as to the existence of fracture elsewhere, allowing the escape of cerebro-spinal fluid. For it must be allowed the long continuance of so much watery discharge from the ear cannot satisfactorily be traced to any other cause, such as serous exudation from clot or wound in the meatus, or from the labyrinth of the internal ear. Some years ago, Mr. Hilton in a case similar to the above, took hold of the boy's nose, making him angry and

struggling. His face soon became congested, and as the blood filled his head the serum poured from the ear with great freedom, showing that it could not have been due to serous draining from blood clot. This experiment, however, is not one to be repeated, as being fraught with danger to the patient, whose prospect of cure mainly depends on absolute rest of the cerebrum.

Displacement of bones, is of course, usually almost nil in fractured base, the chief cause of fear being bruising of the brain substance or hæorrhage from injury to a vein or sinues. It can therefore be readily understood that such a fracture might possibly occur without any symptoms beyond those of concussion. Post mortem examinations made long time after the injury would not reveal, except to very careful inspection, the previous existence of such a fracture, for union would take place rapidly, and probably without callus, since the parts are placed in almost perfect apposition, and are not liable to displacement after the injury.

In the same hospital was a case of compound fracture of the skull with depression, which excited more than usual interest. A child, æt. 3, was run over, and a piece of its scalp, over the left parietal bone, torn away to the extent of three inches diameter. In this wound the periosteum was stripped to the same extent, and the parietal bone exposed. A fracture ran across the bone and one margin was depressed about one third of an inch. The child was almost pulseless, but soon rallied, and no symptoms of compression followed. At the end of six weeks the whole outer table of the injured portion of bone separated, and soon after this, the wound healed over. The general health of the child continued good throughout. Now in this case, although the depression was considerable, still Mr. de Gros Clarke, under whose care the patient was, did not deem it justifiable to trephine in the absence of marked symptoms; and this is almost invariably the rule adopted in the London Hospitals—not to consider depression alone sufficient warrant for using the trephine. The practice is doubtless correct in some cases, as in the instance I have given, but it may, I think, be carried too far. For in many cases there is almost a certainty that the depression will set up mischief, if not removed, and in these cases the excessive caution has, I think, often postponed the

operation too long—indeed has almost banished it. Its infrequency thus leads to its being looked on as quite a deruier resort, employed almost in articuls mortis, when nothing can be expected but unmerited opprobrin for the operation. That it is not necessarily fatal, may be seen from the accounts given by honest old Percival Pott in the last century, when life was held cheaper than at present, and when he made use of the operation as a preventive treatment as well as a curative.

A case of great importance in a practical point of view occurred lately in the practice of an able London Surgeon. While he was attempting to force an elastic catheter through a tight stricture, the instrument suddenly broke in two, leaving about four inches firmly held in the urethra. All attempts to remove it by urethra forceps were fruitless, and perineal section was obliged to be had recourse to. This was successful, and now, two months from the date of the operation, the perineal wound is nearly closed, and the stricture cured by gradual dilitation and rest. Of course no blame can be attached to the Surgeon, but it ought to make every one especially careful to examine his instruments before using them, a point which I fear too many of us are apt to forget—a practical lesson especially to younger members of the Profession. Perineal section is no light operation for the patient, but on the contrary formidable from its results, as statistics prove, and one would be cautious of being compelled to resort to it, when stricture can with care and patience be so successfully treated by other methods.

I think I mentioned some time ago that some of our Surgeons employ potassa fusa in the treatment of old intractable strictures. Mr. de Gros Clark has done this for many years past, applying the caustic by means of an instrument devised by himself. It consists of a solid staff, upon the end of which can be accurately screwed the top to contain the potassa. This top resembles somewhat a perforated minie bullet, and in the back part of it the potassa fusa is placed. When this is passed down the urethra the caustic being guarded does not effect the canal, but on reaching the opposing stricture, and being pressed firmly against it, moisture soon finds its way along the perforation in the chambered top, and that part alone against which the open point is pressed, is subjected to the

action of the caustic. In this way only the dense stricture is eaten through, and there is not sufficient irritation caused to induce further contraction, a point in which this operation perhaps possesses an advantage over the ordinary methods of treatment. I must add that Mr. Clark's cases have been very successful.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur'.'

THE FUNCTIONS AND DISORDERS OF THE REPRODUCTIVE ORGANS IN CHILDHOOD, YOUTH, ADULT AGE, AND ADVANCED LIFE, CONSIDERED IN THEIR PHYSIOLOGICAL, SOCIAL, AND MORAL RELATIONS. By WILLIAM ACTON, M. R. C. S. Second American from the fourth London Edition. Lindsay & Blakiston. Philadelphia. 1867. pp. 291.

When a Medical Work can present on its title page the endorsement of the Profession, which is implied by the necessity for a *fourth* Edition from the demands of the Medical Public in England and when to this, is added the speedy call for a *second* American edition, it is high evidence of sterling value.

Mr. Acton seems to have had a very peculiar preparation for his work. Long investigation and study of M. Ricord's clinique on syphilis, with special examination and consideration of the moral aspect of those horrible habits to which alas! so many of both sexes have fallen victims, eminently qualify and adapt him for the proper accomplishment of so interesting and so important an undertaking, as is implied in the title of this book.

The fact that there is a need for such a book—painful and humiliating as it is to poor human nature—demands from competent medical men that this need should be supplied. Who that is engaged in the active practice of his Profession is not, often called to treat cases in which he has the strongest reasons to suspect the patient of the infamous vice of masturbation, yet few are prepared to relieve the miserable victim of this terrible unhappiness because of the want of such practical knowledge as this Work contains.

Hence the miserable victims fall into the hands of those harpies, the unprincipled quacks, who by their nefarious practices, prey alike upon the imagination and purses of the unfortunate.

It may be thought that the treatment of such subjects is beyond the dignity of the Professional teacher, but this is not so.—Nothing is unbecoming Professional dignity, which contemplates the alleviation of the miserable. Nothing appeals more strongly to the Professional heart than those soul sorrows which result from bodily ailments and which are medicable by the resources of the medical art. The practical question—shall these miserables fall a prey to the sharper who fattens on human woe, or shall the Profession stand forth for their relief?

In this aspect of the subject, we take great pleasure in offering our endorsement of this Book.

While it magnifies, we think, unnecessarily some points, and attaches undue importance to others—we are prepared to make all proper allowance for an enthusiast who tells the reader "that the largest part of the time and pains it has cost me, has been bestowed on the minute weighing of every sentence, in the hope that in my treatment of a subject so novel and difficult, and in many respects painful, nothing may remain to which fastidiousness itself can fairly object."

It only remains to say that the workmanship, (typographical, and other,) is after the usually excellent style of the Publishers, Lindsay & Blakiston. W.

Chloroform as an Internal Remedy. For the Paris International Medical Congress, at the great Paris Exposition of 1867. By A. P. Merrill, M. D., New York. pp. 43.

Dr. Merrill is enthusiastic. He tells the International Medical Congress, through its Secretary, M. Jaccoud, "I have *discovered* * * that chloroform, given by the stomach and bowels, is an effective remedy for this species of disordered innervation which causes congestion, paresis and spasm. Consequently, it may be used for the relief of that large class of fatal diseases, which have hitherto been only, to a small extent, amenable to successful treat-

ment. I submit the accompanying paper to the Congress, with a conviction inspired by more than fourteen years' experience with the internal use of chloroform in hypnotic doses, that whenever its remedial power may be understood, it will be classed among the great discoveries in medicine."

The author furnishes an array of "*fatal* diseases which have hitherto been only, to a small extent, amenable to successful treatment, and gives us forty-five cases of fatal diseases, which were not amenable to *successful* treatment, but which yielded to his "great *discovery*."

Case of a child in convulsions, delirium tremens, cramp colic, epilepsy, chills, pneumonia, catarrhal fever, &c., &c., are cited as the fatal diseases, which were amenable to his mode of using chloroform!

Dr. Merrill, with the zeal of a specialist, adduces good results, by calling especial attention to a very valuable agent, which, to all Practitioners of recognized experience, is of a greater value in remedial application than many have yet ascertained.

Making due allowance for an author's enthusiasm, we commend his monograph to the Profession. W.

MISCELLANEOUS.

"Non Omnes Eadem mirantur Ament que."—Hor.

Rare Disease of the Tricuspid Valves.—At a medical meeting, Dr. Ross, exhibited a heart, weighing 13½ ounces, which had been removed from a girl 13 years old, who had suffered from rheumatism at different times, for the past six years. The pericardium contained sixteen, and the pleural cavity thirty-two ounces of fluid. The aortic, semilunar and mitral valves, were hard and much thickened, closing very imperfectly. The most abnormal change was an extensive thickening, and contraction of the curtains of the tricuspid valves, presenting the appearance of a white tumor with a button-hole slit through it.—*University Jour. of Med. and Surg.*

Helleborine.—Helleborine and helleboreine, two substances prepared from the roots of green and black hellebore. The latter

acts somewhat like digitalin, and diminishes the pulse, in small doses, but in larger doses, it accelerates it, and produces a brief paralysis of the heart. It increases the salivary secretion, acts as an irritant to the digestive tube, producing violent vomiting and dysenteric diarrhœa accompanied with severe pain, and causes hyperæmia of the pelvic organ, particularly in women. Helleborine acts on the intestines, similar to the helleboreine, but differs from it in being slightly narcotic.—*Ib.*

Poisoning by Opium.—New Treatment.—Dr. Monroe, relates the case of a lady, who had taken two ounces of laudanum, with an intention to destroy herself. She was placed upon her back on the floor, with her head elevated a little upon a folded sheet. A pitcher filled with cold water was raised about eight or nine feet above, and the water allowed to fall in a small stream upon the epigastrium. The breathing now became a little more frequent and equable, and the stertor less. After the second pailful, other manifestations of returning life appeared. After the third was used, she was then entirely conscious, and struggling to escape, she was rubbed dry with warm cloths, and was walked about the room for an hour or more. She recovered without any permanent ill-effect, and has never attempted since to destroy herself, but is a blessing to her family and society.—Ib.

Cancer.—M. Bitot, considers perchloride of iron almost a specific for cancer; its action being like iodine in cases of scrofula. It should be employed both internally and externally.

One drop of the oil of bitter almonds will communicate an agreeable taste and smell to an ounce of commercial castor oil, and not affect its medical properties.

Fatal Case of Ovariotomy.—M. Koeberlé, the eminent ovariotomist of Strasburg, has published in *La France Médicale* (Feb. 15th, 1867) a case in which tumours of both ovaries were removed, one of which weighed ninety pounds. The adhesions were very extensive, and the oozing of blood was considerable; not so much so, however, as to require the actual cautery, which was ready. The pedicles were tied. The patient died, thirty-six hours after the operation, of hæmorrhage into the cavity of the abdomen. M. Koeberlé deserves a good deal of credit for giving publicity to this case.

Death from Chloroform.—A death from chloroform, recently occurred on the performance of a rhinoplastic operation, by Prof. Hamilton.

Epileptiform Convulsions.—Lucy C., æt. 16, unmarried, first menstruated at 13. She was perfectly healthy up to about twelve months ago, when she had her first fit. Since then she has had several fits at or about each menstrual period. During the interval between these periods she complains of nothing but slight pain in the back and head, and trouble caused by the presence of thread-worms, which she states she discharges in large quantities.

What are these fits that the patient complains of? There are but three forms of convulsion to which the adult or child is liable. First, *simple* convulsions; second *epileptiform* convulsions, the convulsions which resemble epilepsy; and, third, *epileptic* convulsions, which are due to certain irritations of the nervous system, of which we know very little indeed. Convulsions due to alcoholic poisoning, are epileptiform, as they resemble epilepsy very closely. On approaching a case of convulsions, we are to decide whether it is hysterical, epileptiform, or epileptic. This patient receives no warning before falling, falls perfectly unconscious, has clonic spasms, froths at the mouth, and sometimes finds her tongue sore on recovering from the convulsion, which lasts but two or three minutes. These symptoms are very different from those of hysterical convulsions, which often last from four to five hours, the patient remaining in a semi-conscious condition all this time, never biting the tongue or frothing at the mouth. So we may exclude hysteria, and decide whether the patient has epileptiform or epileptic convulsions. Epileptiform convulsions are always due to some exciting cause, which we are generally able to discover. If we do not discover such cause, we may say the case is one of epilepsy. Though this is not a good gound of division, it is the one upon which we practice.

In looking for the cause of this disease, we may exclude the presence of thread-worms as not likely to produce convulsions in a patient of this age, or at such regular periods. In examining a young unmarried lady for the cause of convulsions, always examine especially for two things: onanism and absence of menstruation. I found nothing in the patient's history to indicate the former. On physical examination I found the vagina narrow, longer than usual, but unobstructed by any trace of a hymen, and when I finally succeeded in reaching the uterus, I found it very small and movable. On examining per rectum and vagina conjointly, I found the uterus was not over an inch in length, and half an inch in width. The mucous membrane of the cervix was in a condition of congestion and inflammation almost, if not quite granular. Though this girl has menstruated regularly for three years, the discharge has been very slight. She is very plethoric and strong. This is

the negative evidence that this condition of the uterus is producing convulsions. I have seen a dozen cases of epileptiform convulsions due to imperfect menstruation on account of the of want development of the uterus, and I believe the convulsions in this case are due to this cause. At puberty, the uterus, instead of developing, remained perfect, but small. It consequently does its duty, but there is so small a surface for secretion and so little parenchyma to contain bloodvessels, that the discharge is insufficient. This is a type of a very large class of cases.

Prognosis.—I believe she can be cured of these convulsions, though it may take a year of persevering effort to accomplish it.

Treatment —In the first place, as the uterus does not discharge the necessary quantity of fluid every month, this depletion could be increased artificially, by taking from three to six ounces of blood, by leeches applied to the groin, after each menstrual flux. A better way of treating this case, one which looks to a radical cure, is to make this uterus, as large as it ought to be. This may be done in this way. Every week or ten days a sponge-tent should be introduced up to the fundus, and left in for twelve or twenty-four hours. As it increases in size, it distends the cavity of the uterus, and causes the walls to grow. After dilating with sponge-tents, the galvanic pessary may be left in the cavity during the week preceding each menstrual epoch. Galvanism may be used externally, by placing one battery over the spine, and the other over the uterus; or the nerves of the mucous membrane of the uterus may be stimulated by passing a steel probe, attached to one pole of the battery, and covered by a catheter, up to the fundus, the other pole being placed over the spine. The day on which the tent is introduced, the patient should be kept quiet in bed.—T. G. Thomas, M. D.—*Medical and Surgical Reporter.*

Antidotes for Poisons.—In the *British and Foreign Medico-Chirurgical Review* we find the following statement: Messrs. T. & T. C. Smith claim to have discovered a common antidote for prussic acid, antimony and arsenic.

Prussic Acid Antidote.—Take liquor of perchloride of iron 57 minims (drops); protosulphate of iron in crystals, as pure as possible, 25 grains; as much water as will make a solution of a proto-sesquisalt of iron, measuring about half an ounce. Dissolve, on the other hand, 77 grains of crystalized carbonate of soda in about half an ounce of water. These quantities destroy the poisonous action of between 100 and 200 drops of prussic acid, officinal strength, by giving first the one liquid, and then the other.

Antidote for Cyanide of Potassium.—The antidote for this

compound is the same as for the prusssic acid, except that the solution of proto-sesquisalt of iron is to be used without the alkaline or soda solution, the prussic (hydrocyanic) acid being already combined with an alkali. The use of the alkali, however, would not be injurious—a harmless yellow prussiate would be formed. In this case, in consequence of the possible presence of free acid in the stomach, the alkaline liquid should be given first. The quantities given, as the prussic acid antidote, would decompose 35 grains of cyanide of potassium.—*Medical and Surgical Reporter.*

Mistakes in Surgical Diagnosis.—At the battle of Drewry's Bluff on the 10th of May, 1864, Gen. Beauregard captured quite a number of Federal wounded and their assistant surgeons. These were all moved to the barracks at the bluff, which was then being used as a field infirmary by the Confederates.

The captured Medical officers of the federal army were in charge of their own wounded, and their supplies were furnished by a confederate purveyor on the ground. They had been diligently at work for some time, when two surgeons of the Southern army loitering by found an arm under the operating table, and with laudable curiosity they took the arm up, laid it on the table and opened it from behind to find out the extent of injury done the elbow joint. To their surprise the joint was not injured, and they cut the flesh entirely from the joint and up the humerus to the point of amputation. They then asked the assistant surgeon the cause of his amputation. He said that he examined the arm and found a piece of bone in the wound, and from the direction of the "track" he supposed the ball had passed directly through the joint.

I heard the case related to the chief Surgeon, with the suggestion that Libby prison was more suited to the operator than the infirmary was. I crossed the yard to examine the arm for myself, and sure enough the joint and bones were perfect. "How could such a mistake on the part of the operator possibly have occurred?" was asked by every one. The poor fellow was seemingly indifferent to the consequences of his error, although he was dejected and must have felt wretchedly, for no one could offer the first palliating circumstance for the grossness of his mistake.

I took the flesh that had been removed from the bones, from under the table, and introduced my finger into the bullet hole, and found a hard, rough substance imbedded in the flesh, it was examined by others and they concluded it was bone. I laid the wound open and found a piece of cherry wood three fourths of an inch long, and a third in diameter, jagged and rough. This had caused the soldier to lose his arm.

The ball struck the flexor cardi radialis, passed upward under the pronator radii teres, tore up a portion of the brachialis anticus, and imbedded itself in the triceps on the back part of the inner side of the arm. The ball was now examined, it was flattened near the point on one side, and in this irregular indented surface, as well as in the circular groves near the base, fibers of the same wood were found. This was invaluable evidence, and should have led at once to cleaning out the track of the ball, and a most careful examination of the adjacent parts, as well as by questioning the patient himself in regard to his position in relation to other objects and the exact position of his arm, in relation to his body, and things close to it.

The value of this sort of evidence is well illustrated by the following circumstance:

While passing through Goldsboro, N. C., in January 1863, a wounded soldier on furlough waiting at the hotel for cars, observing me to be a surgeon, asked if I would dress his leg. I replied in the affirmative, and as I removed the old dressing he entertained me with his "story of the fight," and by the time I had the dressing off, he had got to that point where soldiers always show the ball—if they have it—that they were wounded with. I am always glad when they have it, for it answers the place of a good deal of talk with them, and sometimes aids in diagnosis. This soldier's ball was a minnie, flattened very much on one side, and in the roughness of this surface I could detect a few very small particles of brass.

His wound was in the thigh, the ball entering about the middle of the inner front, passed through without touching the bone, and made its exit by the knife on the same line posteriorly. The exit wound had healed, but the front wound was running a gill a day. He was pale and emaciated, being in the fourth month of his suffering. After a very tedious examination, I cut a U. S. army staff button out of his thigh, four inches below the front wound; and for the first time he remembered that he had this button in his pants pocket the morning he was wounded, although I had asked him repeatedly if such was not the case, he steadily maintained the negative to my questions.

One mistake very often leads to many others; as in the case of the elbow joint, the medical officer recklessly presumed the ball to have taken a direct line through the joint—from the point of entrance to its lodgment. Then mistaking the piece of wood for bone, confirmed his former error, and led to amputation. On the other hand, amputation having been determined on, it was not thought necessary to make a further examination, and increase the pain and suffering of the patient.

This timidity on the part of the surgeons, which too frequently takes the shape of kindness to patients, is so censurable that no surgeon should allow himself to be drawn into it.

No surgeon should act at all, unless he can do so intelligently, and to effect this, a careful and often prolonged and perhaps repeated, examination must be made; if the consequent pain and suffering cannot be alleviated, then the patient must bear it the best he can.

In the case of the thigh wound, the soldier informed me that he had been under treatment for subcutaneous erysipelas, and the only evidence I could find by the most thorough cross-questioning, upon which to found such a diagnosis was the large amount of suppuration, caused by the presence of a brass button in the thigh.—Styles Kennedy, M. D., Delaware.—*Med. and Surgical Reporter.*

A Delicate Surgical Operation.—The taking up of the external iliac artery and removal of a tumor from the thigh—was to have been performed on a man named Gould, at Toronto, recently, but the subject died from chloroform inhaled before the operation began.

Harvard Medical School, Boston, Mass.—The following account of the commencement of the Harvard Medical School we copy from the *Boston Medical and Surgical Journal:*

The usual exercises of the graduating class of the Medical School of Harvard University and the conferring of degrees, took place at the Medical College on Wednesday, the 13th inst. The anticipated address from Prof. Agassiz added a special attraction to the occasion, so that the largest lecture-room of the college was crowded to its utmost capacity. After the usual introductory exercises, six of the theses selected from those of the graduating class were read by their respective authors, all of them giving evidence of creditable devotion to their studies, and some of them of dec ded originality of thought. Medical degrees were conferred upon eighty-two graduates.

Professor Agassiz commenced his address by an apology for presenting himself to his audience without any elaborate preparation.

Circumstances had prevented this, but he should do injustice, he said, to the feelings of sympathy toward the Medical School which were felt in the other departments of the University, if he had failed to appear before them. The subject which in such a connection naturally suggested itself to his mind was the application of experimental physiology to Medical science. Granting the immense importance of such investigations, he held that they were

only justifiable when based on a full appreciation of the identity of plan in the structure of man and the lower animals. He did not dwell on the importance of these investigations, but used them as arguments for a full and thorough study of Comparative Anatomy. Only such a knowledge of this subject as made it evident that there was a similarity in the plan of structure between the lower animals and man could justify such researches. He illustrated his point by reference to the various orders of the animal kingdom, directing attention to those which by their organization made them the most proper objects for experiment and indicating others, which from the very nature of their vital phenomena could not justify any deductions to phenomena in man. He urged the great importance of studying these peculiarities in animals themselves, not in books; and incidentally referred to the great advantage to be thus gained in skill in minute dissection and the use of the scalpel.

Professor Agassiz paid a just tribute to the general scientific attainments to the Medical Profession, and alluded to the great confidence which as a class they almost universally command; urging it as a motive for the continued pursuit of scientific studies through life, and incidentally paying a tribute to the acknowledged head of the Medical Profession in Boston at the present time, as showing in his advanced years more intellectual activity than most younger men.

Prof. Agassiz next spoke of the theories of transmutation of species, so popular just now, as a subject naturally associated with the topics he had been discussing. He impressed upon his hearers the importance of considering such questions for themselves, and of not being led away by any doctrines merely because they were popular. In connection with this topic he took occasion to enforce the value and importance of original observations with the microscope He described in a cursory manner the development of all animal life from the egg, giving an outline of cell-development and transformation, and indicating the classes of animal whose development could thus be studied, either on the sea-coast or in the interior. He remarked upon the defference which exist among allied animals of the present day; which, however closely they may approach each other, still retain their type and never merge into each other, still presenting the same character as their mummified representatives found in Egypt. He referred, as an interesting fact in this connection, to the much greater changes than the theory of transformation supposes which take place in the different stages of development of animals, but which never lead to a change of type, the same species ultimately always resulting from the same egg; or, if a departure from the type occurs, constituting a monstrosity,

which, as all medical men know, is not perpetuated. Prof. Agassiz ascribed the readiness with which the theory which he had been discussing found acceptance at the present day, to the popular ideas about improvement and progress. His discourse was listened to with much interest by the large audience assembled, and was calculated to produce an excellent effect upon those for whose benefit it was specially designed.—*Medical and Surgical Reporter.*

Foreign Body in the Air Passages more than Three Months. On the 26th of last April, I was summoned to see Q. H., æt. eighteen months. His mother told me he had been languid and drooping two days before, having, as she thought caught cold. This, however, caused him to be but slightly indisposed, until the 26th, when he was left alone, playing on the floor, having, among other things, a number of coffee beans. During his mother's temporary absence he suddenly got worse, so that after her return, she found him blue in the face, with threatening suffocation. On examination, the following symptoms presented: Countenance anxious, great difficulty of respiration, pulse slightly accelerated, cough violent and paroxysmal, voice normal. The fauces presented nothing abnormal. Upon percussion the resonance was found natural, but auscultation showed the existence of dry ronchus on the left side, with a to and fro sound which was very audible, even at a distance from the patient. The child was very restless, and *constantly rubbing* its nose.

The case was either insidious true croup, or a foreign body in the air passages. It was therefore left for future development; meanwhile, administering mild emetics, an occasional warm bath when the symptoms were urgent, and anodynes to render the patient's condition as comfortable as could be under the circumstances. After the lapse of a few days without any change in symptoms, no loss of voice or apparent exudation in the fauces, it was unhesitatingly pronounced a case of foreign body in the windpipe. The child's chances of recovery without an operation were considered extremely doubtful, but the parents expressing their unwillingness to have it operated upon, and as such an operation in so small a child is by all means a very dangerous one, it was left as a forlorn hope for spontaneous ejection. The treatment henceforth was conducted on general principles, consisting of anodynes, anti-spasmodics with iron, and good, nutritious diet, for a period of seven weeks, (most of the time the suffering was severe) when it gradually began to improve, with, however, the ronchus and flapping sounds remaining quite marked. Treatment was now discontinued, the child being brought to my office once a week to watch

for complications and to observe its progress, until the 7th of August; he was then seized with vomiting and diarrhœa, (cholera infantum,) when, to the agreeable surprise of myself, as well as his parents, he vomited the roasted coffee intruder, which was about one third larger than an ordinary coffee bean, preserving its shape and smoothness perfectly.

The child has greatly improved since the favorable expectoration, leaving but a slight bronchitis behind. Thus the foreign substance was retained, in this case, for three months and ten days without the least sign of disintegration, and very remarkably, considering the size of the bronchial tubes at such an age, without proving distructive to life. It was lodged in or at the entrance of the lef bronchial tube, as the normal visicular murmur was frequently inaudible on the left side, while it always remained clear on the right side, which is contrary to the general rule in such cases.—A. P. F.—*Medical and Surgical Reporter.*

An Illustration of the Beneficial Effects of Antomized Lime-Water in Membranous Croup.—On the 22d of last November, I was called some three miles from my residence to see a little child, about 20 months old, who had been suffering with croupal symptoms for five or six days. Very slowly and gradually had they come on, so as not to give the mother any uneasiness; but had increased in intensity, day by day, in spite of the various remedies applied, until the child presented the alarming spectacle which had induced the parents to call me in, and which at once indicated a case of membranous croup, of the gravest aspect.

I ordered immediately the constant inhalation of the vapor of hot water and Dr. Leaming's mixture of chlorate of potassa, muriate of amonia, senega, etc.

When I paid my second visit, on the following day, the little boy was evidently more comfortable. He had coughed up a large piece of false membrane, and the shrill, brassy inspiration was materially softened.

Becoming engaged in an obstetrical case of uncommon severity, I was unable to see my little patient again until forty-eight hours later. I found him then in an almost hopeless condition. His laboured breathing could be heard outside the house. He had grown so unruly that his nurses had ceased to apply the steam, and were awaiting with resignation his death, which seemed speedily approaching. He lay with his head thrown far back, his lips deeply cyanotic—in fact, his entire surface showing in its dusky hue the fearful extent of the deficiency of arterial blood, his pulse small, and beyond counting.

I had seen the piece of membrane, coughed up by the child on the second day of my attendance, dissolve in lime-water as readily as any diphtheritic deposit; and I determined now to give the little sufferer, as a last chance, the inhalation of atomized lime-water. In fifteen minutes from the time I had begun to let the spray play over the mouth and nose of the child I perceived, with heartfelt satisfaction, that my efforts were beginning to be crowned with success. The harsh, metalic breathing grew softer, and at last melted down as if hushed by a magical power, the cyanotic hue gradually disappeared from the face, and before I left the house a moribund condition was exchanged for one of hopeful expectation. A relay of nurses kept up the lime-water spray, without ceasing, the rest of the day and the following night, so that, to my extreme gratification, I found my little patient, on my visit early the next morning, sitting up in his cradle, quite contented with the supply of air drawn in through his nostrils. It was now more difficult to make him breathe the spray. I exhorted the attendants, however, to the utmost perseverance, and left, delighted with my success thus far. But, on the following day, I found almost as bad a state of things as at my first visit. The glass tubes (of the spray-producer) had become choked up by the deposit of lime from the lime-water, and would work no more; the child had thus been without the spray for at least eighteen hours, the parents not taking the trouble to inform me at once of the fact. I hastened back to my office, substituted india-rubber tubes for the glass,—the former having a much larger bore,—returned to my little charge, and again had the satisfaction of procuring him speedy amelioration of his urgent symptoms. From this time he steadily improved, and, after the persevering use of the atomizer for three more days, I dismissed him from my list perfectly cured.—H. E. S.—*Medical Record.*

Medical College Convention—Increasing the Usefulness of Medical Colleges.—Pursuant to the call of a Committee appointed at the last meeting of the American Medical Association, delegates from most of the Medical Colleges of the Country met on the 3d inst. in Cincinnati.

Professor Davis, of Chicago, called the meeting to order and stated its object. Prof. A. Stille, of Philadelphia, was chosen Chairman, and Prof. G. C. E. Weber, of Cleveland, Secretary.

The following named gentlemen were approved as delegates:

Professors A. Hammer, of Humbolt Medical College, St. Louis, Missouri; W. N. Byford, Chicago Medical College, Chicago; A. Stille, University of Pennsylvania, Philadelphia, Pennsylvania;

A. B. Palmer, University of Michigan; A. B. Palmer, Berkshire Medical College, Massachusettes; Alden March, Albany Medical College, New York; A. J. Steele, Chicago Medical College, Chicago; N. S. Davis, Chicago Medical College, Chicago; Francis Carter, Starling Medical College, Ohio; James M. Holloway, University of Louisville, Ky.; N. R. Taylor, Medical Department of Iowa University, Iowa; J. C. Hughes, Medical Department of Iowa University, Iowa; G. C. E. Weber, Charity Hospital Medical College, Cleveland, Ohio; F. Donaldson, University of Maryland, Maryland; J. N. McDowell, Missouri Medical College, Missouri; C. G. Comegys, Medical College of Ohio, Ohio; George C. Blackman, Medical College of Ohio, Ohio; E. B. Stevens, Miami Medical College, Ohio; George Mendenhall, Miami Medical College, Ohio; L. O. Gross, Jefferson Medical College, Pennsylvania; B. L. Lawson, Cincinnati College of Medicine; —— Read, Cincinnati College of Medicine.

Professors Holloway, of Louisville; Davis, of Chicago; Donaldson, of Baltimore; Blackman, of Cincinnati; and March, of Albany, were appointed a committee to report on the order of the different subjects which were to occupy the attention of the Convention.

In the afternoon session this committee reported six distinct propositions. The first was taken up and discussed by Professors Davis, Gross, Comegys, McDowell, Hammer, Taylor, and Palmer, and after amendment adopted as follows:

1. That every student applying for matriculation in a Medical College shall be required to show, either by satisfactory certificates or by a direct examination by a committee of the Faculty that he possesses a thorough knowledge of the common English branches of education, including the first series of mathematics, and sufficient knowledge of Latin and Greek to understand the technical terms of the Profession; and that the certificates presented, or the results of the examinations thus required, be regularly filed as a part of the records of each Medical College.

On Saturday further discussion took place, and the following were adopted:

2. That every Medical student be required to study not only four full years, but also to attend three regular annual courses of Medical College instruction before being admitted to an examination for the degree of Doctor of Medicine.

3. That the *minimum* duration of a regular annual lecture term, or course of Medical College instruction, shall be six calendar months.

4. That every Medical College shall embrace in its curriculum at

least thirteen Professorships, including substantially the following branches, to be taught by not less than nine Professors, namely: Descriptive Anatomy, Physiology and Histology, Inorganic Chemistry, Materia Medica, Organic Chemistry and Toxicology, General Pathology and Public Hygiene, Surgical Anatomy and Operations of Surgery, Medical Jurisprudence, Practice of Medicine, Practice of Surgery, Pathological Anatomy, Diseases of Children, Obstetrics and Diseases of Women, Clinical Medicine and Clinical Surgery.

That these several branches shall be divided into three groups or series, corresponding with the three courses of Medical College instruction required.

The first, or Freshman series, shall embrace Descriptive Anatomy and Practical Dissections, Physiology and Histology, Inorganic Chemistry and Materia Medica and Therapeutics.

To these the attention of the student shall be mainly restricted during the first course of Medical College instruction, and in these he shall submit to a thorough examination by the proper members of the Faculty, at its close, and receive a certificate indicating the the degree of his progress.

The second, or Junior series, shall embrace Organic Chemistry and Toxicology, General Pathology, Morbid Anatomy and Public Hygiene, Surgical Anatomy and Operations of Surgery, and Medical Jurisprudence. To these the attention of the Medical student shall be directed during his second course of Medical College instruction, and in them he shall be examined at the close of his second course in the same manner as after the first.

The third, or Senior series shall embrace Practical Medicine, Practical Surgery, Obstetrics and diseases peculiar to women and children: with Clinical Medicine and Clinical Surgery in hospital. These shall occupy the attention of the student during the third course of college instruction, and at its close he shall be eligible to a general examination on all the branches as a prerequisite for the degree of Doctor of Medicine. The instruction in the three series of branches is to be given simultaneously, and to continue throughout the whole of each annual college term: each student attending the lectures on such branches as belong to his period of progress in study, in the same manner as the Sophomore, Junior and Senior classes each pursue their respective studies simultaneously throughout the collegiate year, in all our literary colleges.

Trichinosis.—A committee appointed by the Medical Society of Vienna, and compossd of Professors Klob, Müller, and Wedl, has just published a long report on trichinosis, in which the startling fact is asserted that the real source of infection lies entirely in the

rat, in which the malady is spontaneously developed, and which communicates it to the pig. In Moravia, eighteen out of forty-nine rats examined were trichinized, a proportion of nearly thirty-seven per cent. In Lower Austria the proportion was not more than four per cent., and in the environs of Vienna about ten per cent. The report confirms the fact that trichinosis may be transmitted by food, from the rat to the rabbit, from the rabbit to the fox and hedgehog, from the rat to the pig, and from the pig to the rat. Even the calf may be infected by being fed with the flesh of trichinized rabbit. What is worse still, the larvæ of flies feeding on infected meat will transmit trichinosis to rabbits, provided the larvæ come fresh from the infected substance; for if a certain time be allowed to pass, the trichines soon die in the digestive tube of the larvæ. It is important to notice that the report distinctly confirms the innocuousness of trichinized meat when thoroughly salted, smoked, or boiled, the latter process being by far the most efficacious. Meat roasted for three-quarters of an hour is safe food; boiling requires a whole hour. And yet the report mentions cases of infection recently observed in Austria, so that means should be taken there to protect the public from this disastrous malady. The first measure proposed is the extermination of all rats and mice, but not without previously examining them, in order to ascertain the existence of trichinosis among them. If this examination should lead to affirmative results, then particular care should be taken in the locality to keep pigs away from all sewers, heaps of manure, and other such places frequented by rats. The flesh of the pig should be examined either after death, or even during life, by means of incisions. The infected pig should be separated from the others, marked, and its sale prevented. Special slaughter-houses should be organized for pigs, and the flesh examined by veterinary practitioners; and the public themselves are warned never to eat raw pork under any form, but strictly to consume it only well salted or smoked, boiled or roasted.—*Exchange.*

Nitrous-Oxide as an Anæsthetic, with Report of Seven Cases.—The recent death, at Bellevue Hospital, of a patient while under the influence of chloroform, occurring, as it did, without the omission of any precautions, and in spite of the most intelligent and persistent efforts to sustain animation, will no doubt have a tendency to deter a still larger number of practitioners from the use of chloroform as an anæsthetic. But an anæsthetic we must have. The ability to annihilate pain and prevent muscular action during surgical operations is an incalculable blessing to the world, and it were even better to run all the risk there may be in

the use of chloroform than to attempt to get along without anæsthesia. Ether has some serious objections. It is very unpleasant, especially to children; is frequently slow to act, and sometimes is impotent altogether to produce insensibility without carrying it to an imprudent degree. Besides these objections, though considered entirely safe, it often leaves the patient in a state of great prostration.

Under these circumstances, I have thought that my experience in the use of nitrous-oxide as an anæsthetic might be of some interest at this time.

Case 1.—This was an operation for anchylosis of the hip-joint. Tenotomy and very strong efforts to extend the thigh were made, occupying about five minutes—the patient, a girl of thirteen years, being in complete anæsthesia, and in as favourable condition as could be asked. She was brought under the influence in about one minute, and passed out of it in about the same length of time. No ill effects followed.

Case 2.—This was a simple operation to extend the knee by dividing the tendons of the hamstring muscles. It was chiefly remarkable for the rapidity of the whole operation, the little patient, a boy seven years old, not being quite two minutes unconscious.

Case 3.—This was an operation for deformity of the hip-joint, in a lady of twenty-two. In this case our attempts to produce unconsciousness by the use of ether—carefully administered by Dr. Vermilye—were unsuccessful. The most persistent efforts for over one hour failed to produce the desired effect. We found afterwards that the ether used was not good, but the quantity given was very great. Again we resorted to the nitrous-oxide, and in about forty seconds there was complete anæsthesia. The operation, which was division of the sartorius, occupied one minute, and in thirty seconds more the patient was as well as if nothing had happened.

Case 4.—This was a very interesting case of so-called "hysterical-joint," affecting the shoulder, in a very susceptible lady, followed by partial anchylosis. Three years before, I had operated on the right shoulder, assisted (as in the case first related) by Dr. Peaslee, but there was such complete prostration afterwatds from the ether, that she was confined to the bed for more than a month, and it was fully two months before she recovered from the shock. Three years afterwards I was sent for to perform another operation for the same trouble, which had returned this time in the *left* shoulder. The dread of the operation, or rather of the effect of the ether, was so great, that it had been put off till all motion at this joint had ceased, though the adhesions were readily broken up. But the

prostrating effects of the anæsthetic were even greater than before, and she was not able to get up from her bed till nearly all the benefits of the operation had been neutralized by the long confinement. When, at last, she did get up, she was so pale and feeble that I abandoned the idea of employing ether, and again resorted—after unsuccessfully endeavouring to get along without further operation—to the nitrous-oxide. The success was all that could be desired. There was no prostration whatever following the operation, and the next morning she came down to breakfast feeling as well as ever.

Case 5.—About a week afterwards I again operated on the same case, with the same happy escape from the prolonged prostration which had invariable attended the use of ether.

Case 6.—This was a case of deformity, requiring division of the flexors of the thigh, in a feeble girl of nine years of age. It was rapid, and not attended or followed by the slightest shock or unpleasant symptoms.

Case 7.—This was an operation for club-foot, and like the previous case, was characterized by the completeness of the anæsthesia and the absence of all ill effects following it.

In the first five cases the gas was administered by G. R. Colton, by means of a large rubber bag, with a single mouthpiece, the expired breath being thrown into and mixed with the gas in the bag, which formed the next inspiration. Although the administration of the gas was successful as above related, yet I was always anxious about the venous, partially asphyxiated appearance of the patient, which made us cautious about using it in operations requiring much time. This appearance I believe to be due more to the imperfect method of administering the gas than as inseparable from this method of producing anæsthesia. Accordingly I embraced an early opportunity of employing a method devised by Mr. Blakeney, a physician in Twenty-second street, near Sixth avenue, which entirely avoided breathing over any of the expired gases. His method consists of forcing the gas forward under pressure through a tube, with a valve which opens on inspiration and closes on expiration, and the breath passes out through another tube in the open air. In fact, the patient breathes pure gas all the time. Although there seems to be no danger from the former, yet I greatly prefer the latter method, and shall henceforth employ it. It will be seen that I have no experience as yet in nitrous-oxide as an anæsthetic in operations requiring more than five minutes to perform.

To sum up, I would enumerate the following advantages of nitrous-oxide over ether, viz, 1st. The rapidity of its action, causing the saving of time to physician and patient; 2d. Its agreeable-

ness; 3d. The speedy passing off of its effect; and 4th. The absence of all after effects of sickness at the stomach, vomiting, headache, etc. Not one of all those cases complained of any unpleasant symptom whatever. Its disadvantages are—1st. The inconvenience of not always having it at hand when wanted; 2d. The cost ($5.00) of having it brought to you; and 3d. Its possible insufficiency or danger in prolonged operations. But for all short operations I believe nitrous-oxide to be the best anæsthetic we have.

For all superficial operations, such as the opening of abscesses, etc., I have found Richardson's vaporizers to be amply sufficient.-C. F. Taylor.—*Medical Record.*

On the Employment of Narceine.—The following is translated in abstract from the "Répertoire de Pharmacie."

The doses of Narceine commonly employed by Dr. Eulenburg for *internal use* were from one-sixth to one-half a grain; and for *hypodermic use* from one-eight to one-fourth of a grain. With healthy persons these doses are generally followed by a slight narcotic effect, without any accompanying disagreeable subjective symptom, such as headache or gastric derangement. When used hypodermically it produced a sensation of burning at the place of puncture, but of little intensity and duration, a sensation in every case less evident than that caused by every other alkaloid (morphia, quinia, etc.) It never had any irritant effects; but in patients with sensitive skins, when the injection was made on the face, it produced an œdematous swelling without redness, at the place of puncture, which disappeared in from one to two days, leaving a somewhat sensitive and limited induration. Such an effect has nothing in it of a peculiar nature, as it has been noticed after the injection of other alkaloids, as morphia, for example.

Among the physiological effects of narceine which accompany the narcotism is its action on the circulation; this consists principally (contrary to the action of atropia) in a diminution of the pulse, succeeded some time after by an acceleration. In rare cases, the pulse is accelerated during its employment by twelve to sixteen strokes in a minute. Its action on the cutaneous nervous system appears to resemble that of other narcotics, and produces its effects directly when used hypodermically, and indirectly by acting on the centres, when given internally. The repeated use of internal doses often produces from one to two stools, sometimes even diarrhœa. On the other hand, it appears to retard the appearance of the menses. M. Eulenburg concludes that, for sedative and hypnotic effects, narceine is preferable to any other substance. Besides in employment in some essentially neuralgic affections, its use is

indicated in all cases where pain is a prominent symptom, as in articular affections, phlegmons, ocular lesions, (iritis, keratitis, etc.), orchitis, blennorrhagic epididymitis, cystitis cirrhosis of the liver, and in wounds, or after painful operations. In all these cases, narceine, when employed either internally or externally in the doses before mentioned, rapidly lessens the pain, and often produces a sleep of four, five, and even nine hours,—sleep which is soft, tranquil, uninterrupted, and followed by a quiet awaking. These doses never give rise to any derangements or any poisonous effects. Although, by the use of morphia, in numerous cases we obtain the same effects, it often fails; many diseases (especiallly among women) present, in fact, a kind of idiosyncrasy which renders the employment of morphia impossible; thus, by its internal use vomiting is produced, or else the medicine causes, instead of a refreshing sleep, a state of great excitement, with distressing dreams, delirium, and convulsions; while, in some other diseases, morphia, without appreciable cause, produces only a very slight effect, or one of very short duration. The hypodermic employment of morphia renders it more active and more trustworthy, but it increases in a like degree all the inconveniences, and often gives rise to cephalalgia, faintings, vomitings, or profound collapse; often the sleep is very prolonged (according to Semeleder, fifty-four hours); and sometimes the effects of morphia are prolonged even for some days after the awaking.

Narceine, as an anodyne and narcotic, may be always employed in place of morphia, and is, in every respect, equal to it in value, and even in a great many cases is to be preferred to it.

M. Eulenburg has not as yet had many opportunities of employing narceine in hemicrania, supra-orbital, trifacial, and crural neuralgias, but every time it was tried it produced a rapid cure. Hemicrania one-sixth of a grain taken at the commencement of the attack, produced a sleep of several hours, followed by an awaking in perfect health.—*London Pharm. Jour.*

Syrup of Lime in Acute Rheumatism.—Want of space in last week's Journal compelled us to defer a word or two which we wished to append to Dr. Buckingham's communication. We have found great difficulty in getting a properly prepared article in answer to our prescriptions. The difficulty seems to have been, that apothecaries have failed to use *boiling* water in its preparation. Any temperature short of boiling is insufficient, and surely leads to failure. Dr. Buckingham has taken the most effectual method to secure a thorough trial of the new remedy. We learn that he has treated a dozen cases of acute rheumatism during the present season,

with syrup of lime alone, and that the average duration of the disease has been ten days. In no instance did he give a single opiate. So many remedies have been vaunted in times past as having special power in this disease, that we are not, nor do we understand Dr. Buckingham to be, oversanguine with regard to this. His special purpose at the present time is to secure, if possible, a widely extended trial of it. We should be glad to publish in this Journal the results of the experience of any gentleman with this remedy which he may be pleased to communicate to us.—*Boston Medical and Surgical Journal.*

The Endoscope—Illumination by means of the Magnesium Light.—Prof. E. Andrews, of Chicago, has employed the magnesium light to great advantage in the use of the endoscope for examining the urethra. In a communication to the *Chicago Medical Examiner*, he says:—

"The result was to illuminate the urethra magnificently. The mucous membrane, with every little fold or patch of varied colour, was as plainly in view as could possibly be desired. It could not have been seen any better, had it been dissected and laid in the sunlight. By gradually withdrawing the tube, the whole of the canal may successfully be seen as it collapses across the end of the tube. Seeing the performance of the illumination, I have ordered a spring and some small wheel-work attached to the lamp, so that the wire may be made to advance into the flame without the help of an assistant. In this way, no doubt, the difficulty of the illumination will be fully overcome, and the urethra can be inspected almost as easily, and quite as perfectly, as the tongue."

Singular Parasite.—Dr. Ernst Schmidt exhibited to the Chicago Medical Society a specimen of a very unusual parasitic worm, with the following history:—An American girl, 10 years of age, weakly, and of scrofulous diathesis, had suffered for some time from capricious appetite and pain in the upper portion of the abdomen. Two weeks ago, she complained of pain in the left shoulder; at the seat of pain there soon appeared a slight elevation, tender to the touch, slightly red, from which, in a short time, a small worm was observed, endeavoring to escape. If disturbed, the worm withdrew its head beneath the skin; by gentle pressure, however, it was forced through the small opening it had made. A similar swelling appeared behind the left ear, from which another worm made its escape. Thus far, eight elevations have appeared in different portions of the body, from which five worms have been secured. Some of these elevations were neither red nor very tender

on pressure. Palpation gave the sensation of a foreign body under the skin. The effect of the worms to pass through the skin caused no pain nor hæmorrhage. The small opening closed readily, and the elevation soon subsided.

The child, during this time, was nervous and irritable, the pulse being, at times, as low as 40 per minute. The application of mercurial ointment caused the elevation to disappear. In all cases where this was applied, the worms seemed to pass upward from their original position towards the head. The child was not in the habit of eating either raw meat or vegetables. There were no indications of other parasitic worms in the child or other members of the family.

The worms were about five eighths of an inch in length, quite transparent, and divided into eight sections, with an alimentary canal running nearly straight from the anterior to the posterior extremity. The mouth, as examined with the microscope, presented no evidence of apparatus for suction or boring.—*Chicago Medical Journal.*

Syphilis Extensively Propagated by Vaccination in France. In a western department of France (Morbihan) some villages have been the theatre of severe syphilitic symptoms upon more than thirty children, who had all been vaccinated from a little girl with six punctures on each arm, the child herself having been operated upon from another who had been vaccinated from lymph preserved between two plates of glass obtained from the authorities. This misfortune created so much sensation that the Academy of Medicine of Paris sent down two Commissioners, Messrs. Henry Roger and Depaul. These gentlemen have just presented their report to the Academy, and this important document ends with the following considerations: 1. Several of the children whom we have examined were undoubtedly suffering from secondary syphilis. 2. We see no way of explaining this contamination but by vaccination; and we are confident that the cases we have seen were really syphilis engendered by vaccination. 3. As to the origin of the virus, it is very probable that the poison is traceable to the lymph, preserved between two pieces of glass, supplied by the authorities. As primary symptoms were also observed among the children, M. Ricord begged the commissioners to insert that fact in their report, which these gentlemen agreed to do. Here we unfortunately have again repeated the sad occurrence which took place at Rivalta (Italy) a short time ago.—*Lancet.*

Poisoning by Strychnia; Cannabis Indica.—In a recent num-

ber, we reported in our periscopic department a case of recovery from strychnia poisoning by means of chloroform. We now add another, which recovered under the use of *Cannabis indica*, and tr. of camphor. The case occurred in the practice of Dr. S. A. McWilliams, of Chicago, by whom it is reported in the *Medical Examiner*. Patient, 31 years of age, took, suicidally, 5 grains of strychnia. Was seen by Dr. McW. $3\frac{3}{4}$ hours afterwards, when he had extensive, frequent and severe spasms, and with each a blowing of froth from the mouth. He lay upon his back, arms extending obliquely from his body: face flushed; perspiration rolling off him; pupils dilated widely; pulse 130 per minute; colour of lips natural; stiffness of muscles and inability to move limbs; mind perfectly clear. A drachm of the tincture of cannabis indica was immediately given, and another in five minutes; then two similar doses at intervals of ten minutes; afterwards two such doses at fifteen minutes interval with a rapid amelioration of symptoms; the next drachm was given in an hour and a half. The remedy, which afterwards was alternated with camphor, was continued as the urgency of the symptoms demanded, and the patient recovered, with uninterrupted convalescence, after 48 hours.—*Med. and Sur. Reporter.*

Mormon Women.—Dr. Robertz Bartholow, in a lecture on Mormonism, delivered before the Academy of Medicine in Cincinnati, thus speaks of Mormon women:

I was informed by merchants, long residents of Salt Lake City, who had unusual opportunities for learning the facts, that the American females amongst the Mormons, are, chiefly, prostitutes from our Eastern cities. The favorite wife of Brigham Young, Jr., is a well-known courtezan from the city of St. Louis. The great body of Mormon women are rough field laborers, who have nothing refined or womanly about them. There are, of course, exceptional instances in the case of the daughters of the more wealthy saints grown up since 1846, who have been more tenderly nurtured, and have acquired, at least, some of the external graces. It is not possible for the women of Utah to attain a better position. All of their asscciations are of the lowest. Education is discouraged, ridiculed and denounced by the Prophets. The women lead a purely animal life. In the households of their lords, when not engaged in menial offices in the shops or fields, they occupy themselves with dreadful contentions.

The household of a Mormon saint is not that peaceful, patriarchal institution which has been so frequently described. Between the favorite wife or wives and the offcast wives there is war to the knife.

Serious difficulties have again and again occurred in the harem of Brigham, which required all the authority of the Prophet to arrest. When the household of the Prophet is dressed up and on its good behavior, for the reception of strangers across the mountains, these horrid creases are smoothed out and everything color of the rose.—*Exchange.*

To Copy Manuscripts.—The following method for obtaining copies of manuscript papers will be of great service to those who wish to preserve copies of what they write: "Put a little sugar in common writing ink, and with this write on common paper, sized as usual. When a copy is required, take some unsized paper and moisten it lightly with a sponge, and apply the wet paper to the writing, and pass lightly over the unsized paper a moderately heated iron, and the copy is immediately reproduced."—*Amer. Artisan.*

Physiological Effects of Alcohol.—At a late meeting of the Medical Society of Newcastle-on-Tyne, Mr. T. H. Pyle read a paper on this subject. "His object being to show that the theory of Liebig as to the decomposition of alcohol in the system, and its contribution to animal heat, was untenable. Mr. Pyle in his paper related a post-mortem, conducted by himself and assistant, of a man run over by an engine after leaving a public-house. 'The calvaria being removed, we were astonished at the powerful odor of whisky which the membranes emitted, and which increased as we proceeded to cut into the substance of the brain. There was some fluid in the lateral ventricles, which appeared to be more transparent than serum, and which burned with a blue flame, and had all the characteristic properties of alcohol; the whole brain was congested and saturated with spirit, and even the water in which I washed my hands, retained the effluvium for several hours afterwards.'"—*Lancet.*

Sir William Mansfield on Sanitary Measures in India.—Sir William Mansfield has been making some very sensible observations on questions touching the health of the British troops in India, and on the inexpediency of any further reduction of the British forces in that country. The Commander-in-Chief especially pointed out that very much may be done by hygienic measures to make even the unhealtly stations of India tolerably salubrious. These stations he maintained were unhealthy by reason of conditions which, to a large extent, were such as to admit of remedy and removal. He instanced the station of Peshawur as one within his own experience where, notwithstanding tropical and malarious influence and the great exposure of the troops, by sanitary measures

very satisfactory results had been obtained. Sir William especially dwelt upon the importance of giving to each soldier in barracks an area of at least ninety feet, and of efficient drainage. In doing so he spoke in the highest terms of the recommendations of the Sanitary Commissioners on the avoidance of malarious influences and overcrowding :—

"There was no one condition, no one order ever issued by a benevolent Government which had so much conduced to health as that to which he had referred. He recollected when Fort William was a Golgotha, when the amount of sickness in that fort caused it to be dreaded by the troops worse then Sierra Leone. Now, there was hardly a station which exceeded it in sanitary condition."

This is high testimony to the ultility of hygienic science. It shows that in this science properly applied we have the means of counteracting many of the evils which have been considered essentially climatic.—*Lancet.*

Hypochlorite of Magnesia in Bleaching.—The following has been discovered in an examination of the action of hypochlorite of magnesia, and the preference which is given for it when delicate tissues have to be bleached: This hypochlorite decomposes more easily than the lime compound. 2. The liberated magnesia is without action on the tissue. This cannot be said of lime. The best way of preparing hypochlorite of magnesia consists in decomposing sulphate of magnesia with hypochlorite of lime. When the sulphate of magnesia contains manganese, the liquid assumes a red colour, and loses its bleaching power.—*Exchange.*

Burns or Scalds.—The following is one of the best applications we know of in cases of burns, or scalds, more especially where a large surface is denuded of the cuticle.

Take one drachm of finely powdered alum and mix thoroughly with the white of two eggs and one teacup of fresh lard ; spread on a cloth and apply to the parts burnt.

It gives almost instant relief from pain, and by excluding the air prevents excessive inflammatory action. The application should be changed at least once a day.—*Saint Louis Medical Reporter.*

Clitoridectomy for the Cure of Epilepsy.—In connection with this subject, which we noticed two weeks since, the following extract from a lecture by Dr. Brown-Séquard published in the London *Lancet* of January, 1866, is worthy of much consideration :

"An able surgeon has lately treated several kinds of functional

nervous affections by extirpations of the clitoris. That this operation may sometimes be useful there is no doubt at all. But I cannot look upon this mode of treatment as one that should be employed in other cases than those in which a distinct aura starts from the clitoris, or in those cases in which that organ is morbidly sensitive and much hypertrophied. There are cases of nervous complaint due to mastubation, in which the clitoris has been extirpated without any durable benefit as regards the nervous affection, or even as regards the masturbation. In women, as well as in men, the only decisive means against masturbation is the production of a small ulcer (by caustics or the red iron) on parts of the genital organs that are unavoidably touched or moved in the act of self-abuse, so that every attempt to accomplish the act, either with or without the help of the hand, is so painful that the patient must give it up."

We would add to the above, that Mr. Baker Brown and his associate, Mr. Philip Hardy, as appears by a note published in the London Medical Times and Gazette, have determined not to perform the operation of clitoridectomy in the London Surgical Home, "pending the professional inquiry into its validity as a scientific and justifiable operation."—*Exchange.*

Paracentesis Pericardii.—This operation has been again successfully performed at the Leeds Infirmary, England, by Mr. Wheelhouse. He passed a fine trocar half an inch from the left side of the sternum, and opposite the upper margin of the costal cartilage of the fifth rib. On withdrawing the trocar about two and a half or three ounces of a pale pink coagulable serum escaped at first in a steady stream, but afterward subsiding into a saltatory flow coincident with the heart's contractions. The operation was performed on the 19th September, 1866, and the patient was discharged cured on the 13th of October. He was 26 years of age, and had suffered severely from acute rheumatism. In our *Appendix* to the third volume of Velpeau's Operative Surgery, we thus noticed the recorded cases of this operation, p. 927. There is reason to believe that the first successful operation of the kind was performed by the late Dr. John C. Warren, of Boston. M. Trousseau has reported another case in the "Archives Generales de Medicine," for Novembr, 1854. Another case occurred in the practice of Schuh, of Vienna. This patient died some six months afterward, and at the autopsy the point at which the pericardium had been punctured was found adhering to the heart by thick cellular tissue.—Cin. Jour. of Med.

I. Baker Brown and the Obstetrical Society of London.—By the last number of the *Medical Times and Gazette* which has reached us, we are informed of the expulsion of Mr. Baker Brown, from the Obstetrical Society, for unprofessional conduct. The principal charges brought against him were—his having practiced the operation of "Clitoridectomy," without the consent or knowledge of his patients, or their relatives; his having ignored the regular medical attendant, by operating without notifying him of his intention; by continuing to perform this operation, after he had given a pledge to the Society that he would suspend the practice of it, until the Society should pass upon its merits; and for willful misrepresentation in certain specified instances.

The proceedings in the case were marked by much heat and acrimony; and in some particulars, by decided unfairness. With us, such proceedings would be justly considered outrageous. Mr. Brown's defence was certainly a very weak one; but, as was claimed by his friends at the time, allowance should be made for the disgraceful interruptions, which must have embarrassed him in no slight degree. Upon counting the ballots, it was found there were one hundred and ninety-four votes for his expulsion, and only forty-one, including the non-voters, against it.—*Exchange.*

Removal of Obstruction.—Dr. M. H. Shaw writes as follows in the Buffalo Medical and Surgical Journal:

Inasmuch as the removal of obstructions from the nasal passages of children by the usual mode, as described in our books, is many times attended with perplexing difficulty and chagrin to the surgeon, and intense anxiety to friends, I am induced to offer a few suggestions as to a mode of practice quite different, which I have pursued for over twenty-five years, obviating many objections to the usual plan. Therefore, if you think proper, please publish in your Journal, the following simple mode, which in no instance, of all the varied forms of substances that I have found in the nasal passages, has it required over five minutes, to give the desired relief. It entirely obviates the use of chloroform, as the efforts and struggles of the patient rather facilitate the operation than otherwise.

The instrument consists of six or eight inches of fine wire, bent in the form of a hair-pin; indeed I have several times used a common hair-pin with very good results; yet a finer unannealed wire, is better. The doubled end of the wire should be larger or smaller, to correspond to the size of the nostril of the patient. The patient, (usually a small child) seated in a male assistant's lap, with his extremities secured, the surgeon can with a good degree of

confidence thrust the bent end of the wire into the nostril above the obstruction, and withdraw it, or partially withdraw it, and in most instances the patient is immediately relieved. If not by the first effort, try again, as the plan is sure to succeed; at least it always has in my hands.

By the usual operation before the age of chloroform, while in my pupilage, I saw this trifling accident several times by respectable surgeons converted into a protracted and tedious operation, which in all probability might have been done in a few moments with the bent wire. The safety in the use of the instrument without chloroform, and the dispatch attending it, renders it in the opinion of the writer the best possib e mode for this purpose.

I have several times before the introduction of chloroform into practice, used the same instrument to remove foreign bodies from the internal ear, with good results. Yet I now usually administer chloroform and use forceps as a better mode.

I am of the opinion, the same principle applied to obstructions of the œsophagus might give satisfactory results. The wire should be larger and longer, and the double at the end should be made to correspond to the size of the orifice. I can see no good reason why this plan might not be resorted to in the absence of other instruments, with a reasonable prospect of success.

This last is only a suggestion, not the result of experiment.

If the above suggestions induce a trial, especially on the nasal organs, the writer will in some degree have accomplished his object; as it is in his opinion, quite likely to be followed by adoption.

Early Menstruation.—W. A. Simmons, M. D., of Boonesbora, Iowa, states, in the "Cincinnati Journal of Medicine," that he was recently called to give his opinion in a medico-physical point of view, in relation to the following case:

M. F. P., aged eight years, of short stature, fair skin, nervous-sanguine temperament, commenced to menstruate at the age of *seven years* and seven days, and has had a catamenial discharge regularly every lunar month since that period—one year.

The mental and physical signs usual at such times in menstruating women, are well marked. She is rather larger than girls of her age, and usually healthy. The mammæ are developed but slightly more than ordinarily, and no other signs of puberty. They are people in ordinary circumstances, and have not been surfeited with the good things of this world, *excepting* plenty of out-door exercise.

Query—what is the cause, and will it prove deleterious?

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

New Journal.—It is stated that a journal is projected, to be entitled the *Journal of Cutaneous Medicine*, and which is to be edited by Mr. Erasmus Wilson and Dr. Tilbury Fox.—*New York Medical Journal.*

Chicago Medical Journal—Change of Editors.—Drs. Holmes, Lyman and Larkey having resigned the Editorship of the *Chicago Medical Journal*, Dr. J. Adams Allen has resumed the editorial charge, which he relinquished three years since.

Ciphering Machine.—Samuel J. Kelso, of Detroit, Mich., has received a patent for a machine which can be used for adding, subtracting and multiplying figures of any desired magnitude, with the greatest ease and facility.—*The Druggists' Circular and Chemical Gazette.*

Surgical.—A few days since, Dr. Lord, of Providence, assisted by Drs. Warren, of Norwich, and Griffin, of Lyme, successfully removed a tumor of six years' growth, from the eye of Miss Emily Beebe, of Stonington. The tumor was attached near the pupil, and would soon have destroyed the sight entirely.

Ether Spray in Strangulated Hernia.—Dr. John Barclay reports in the "British Medical Journal," Oct. 20, a case of strangulated hernia in left groin, in which the ether spray was used for forty seconds, when a minute spot of skin appeared white. The spray was at once removed, and, on applying the figures of my left hand on the swelling for about two seconds accompained by the most trifling pressure, plump up (or rather down) went the hernia, to the great delight and satisfaction of us all. The man made a first rate recovery. I have not up to this time seen or heard of a case where the spray was used for a similar purpose; but I think there can be no doubt but that in a great many cases of strangulated hernia its employment is to be preferred to that of ice, or even that of chloroform.

A Society of Experimental Therapeutics has recently been created in France, of which the leading members are Professor Trousseau, Dr. Pidoux, Dr. Guéneau de Mussy, Dr. Gubler, Dr. Herard, &c. The chief purpose of the Society is to ascertain,

through experiments on living animals, the real properties of active drugs, which clinical observations on the human subject can not always determine with a sufficient degree of scientific accuracy. Some interesting communications, by Dr. Moreau, the physiologist, on the action of belladonna, were discussed at the first meeting.

Cholera Prize of Twenty Thousand Dollars.—One hundred and ten works were sent this year to the Imperial Academy of Sciences of France for competition. The report is highly interesting, and gives a good idea as to the manner in which cholera has been studied. The full prize was not awarded; but various amounts have been granted to Messrs. Legros and Goujon for their experimental researches; to M. Thiersch for his experiments on 104 mice with choleraic dejections; to M. Baudrimont for his atmospheric researches bearing upon cholera; to M. Worms for his essay on prophylactic measures; and to Dr. Lindsay, of Edinburgh, for his experiments on the transmission of cholera by the clothes.—*Medical News and Library.*

Cheap Ice-Pitcher.—The following simple mode of keeping ice-water for a long time in a common pitcher is worth knowing. We have tried it. Place between two sheets of paper (newspaper will answer, thick brown is better) a layer of cotton batting, about half an inch in thickness; fasten the ends of paper and batting together, forming a circle; then sew or paste a crown over one end, making a box the shape of a stove-pipe hat, minus the rim. Place this over an ordinary pitcher filled with ice-water, making it deep enough to rest on the table so as to exclude the air, and the reader will be astonished at the length of time his ice will keep, and the water remain cold after the ice has melted.—*Exchange.*

A Metallurgic Miracle.—Bellani mentions the following very curious experiment: "If you melt an alloy of tin and lead in a crucible or ladle, and then allow it to get cold, and afterwards write with ordinary ink on the surface of the metal which has been in contact with the sides of the vessel, you may *again melt* the alloy, and after it has cooled, you can still read the letters on the surface. This experiment may be repeated several times, and the letters will still be visible, even if the metal has been *stirred* while melted." Bellani's explanation of this curious phenomenon is, that a very thin layer of oxyd is formed by the writing, which oxyd is not reduced by the repeated fusing of the metal.—*Mechanic's Magazine.*

A disease of a very malignant type has broken out among cattle, in some parts of Illinois, different from anything which has before

come under observation. It commences by a swelling in the flank, extending forward and laterally, until the creature dies, which takes place within two or three days after the first symptoms of indisposition are observable in the locality that is affected. The flesh assumes a dark colour, and a watery secretion, much like the serum of the blood settles immediately under the skin.—*Exchange.*

New Medical Journal.—C. A. Logan, M. D., and T. Sinks, M. D., of Leavenworth, Kansas, have associated in the editing and publication of a new monthly to be entitled "*The Leavenworth Medical Herald.*" Its subscription price is placed at $2. From what we know of the editors we believe it will herald true medical progress, and will be (forgive it Bro. Logan,) *leavenworth* trying for Professional bread. Here is our ☞.—*Chicago Medical Journal.*

University of Michigan.—The chair of surgery in the University of Michigan has been filled by the appointment of Warren Green, M. D., an alumnus of the college. The chair of Homœopathy is yet vacant, although it is rumored the Regents propose to appoint to it the present Professor of Chemistry, S. H. Douglas, M. D., who is said to be an applicant.

The Travelling Quack Nuisance.—During the past year our city authorities, with a view to abate an increasing annoyance or nuisance, and to add something to revenue, passed an ordinance licensing foot and street pedlars, and all sorts of transient shows and cheats, who find the proper material for their operations only in towns and cities; but they omitted, or forgot, travelling, or horse doctors. About the time the ordinance was published, bills and posters were distributed over our city by one of them, announcing that he would stand two days in each month in our city, during the next two years!!

Considering him, and such like, proper objects for license, several Professional friends were consulted as to the propriety of uniting in petitioning our City Fathers to extend the provisions of their general license system to this class of travelling doctors. No agreement could be had, so that whatsoever was done, must be done by individual effort. Mentioning the subject to several councilmen, we found them, unexpectedly, very willing to pass such an ordinance. A rough draft of an ordinance was furnished one of them, and the ordinance as finally passed is appended. It meets my approbation; but its value can only be tested by its practical working. If it is deemed a good precedent, please publish it, that others may know

what has been done here, and improve on it. If it does not abate the nuisance of horse doctors plying their vocation in our midst, it will, if enforced, at least, bring a little revenue into our city Treasury. Very Respectfully,

Z. C. McElroy, M. D.

Zanesville, Ohio, March 29th, 1867.

An Ordinance requiring transient or Travelling Physicians practicing in the City of Zanesville, to take out license therefor.

Sec. 1st. Be it ordained by the City Council of the city of Zanesville, that all transient or travelling doctors or physicians, plying their vocation in the city of Zanesville, whether in hotels, private houses or on the street, whether advertising or not, or using medicines prepared by themselves or others, or Professing to cure disease by any application whatever, shall first procure from the Mayor of said city a license therefor.

Sec. 2d. The Mayor of said city is hereby authorized to issue the license named in the 1st Section hereof, upon the payment to him, for the use of the city, of the sum of five dollars for each and every period of twenty-four hours, or fractional part thereof, that such doctor or physician proposes to stay in the city, and if such persons should prolong his stay for the purposes aforesaid beyond the time for which such license was issued, then upon prepayment at the same rate, a new license shall issue for such further time as the applicant shall then pay for at the rate aforesaid.

Sec. 3d. Any one neglecting or refusing to comply with the provisions of this ordinance, shall, upon conviction thereof before the Mayor, be fined ten dollars for each and every day, he, she, or they, shall have plied, or attempted to ply his, her or their Profession or vocation in this city without such license, and shall stand committed in the city prison until such fine and all costs including those of the city prison, be paid.

Sec. 4. It is hereby made the duty of the city Marshal to see that the provisions of this ordinance are faithfully executed; and it shall further be his duty, whenever he shall find any such person or persons without such license, forthwith to cite him, her, or them before the Mayor to be dealt with as herein before provided, but the Mayor is also required to act upon the complaint of any other person.

Sec. 5. This ordinance shall take effect and be in force from and after its passage and publication.

Passed in Council March 25th, 1867.

F. A. Thompson,
President of the Council.

Geo. G. Gibbons, City Clerk.—*Medical and Surgical Reporter.*

A New Parasite.—Dr. Judée, of Bizot, describes a new parasite which he recently found principally about the neck, the breast, and the hair of women. The parasite in size and aspect resembles a small dark speck the size of a pin's point. With the naked eye little dark lines are seen in its hard body, and which, in consequence of the smallness of the object, are confused together. Examined with a power of 140, the following elements are noticed:—A head furnished with two antennæ, an abdomen, and four pairs of legs, each composed of four articulations, and armed at its extremity by a species of claw. The body and legs are covered with hair. The three dark lines are not superficial, but deep, and depend upon the organs contained in the abdomen. It is very lively, moving rapidly about; and it eats its way, leaving behind a little black powder of extreme fineness. Once separated from the body, it quickly dies. Dr. Judée observes that he had found this parasite on individuals who wear false hair; but he does not think it has any necessary connexion with it. It is common perhaps, in the Arabs during Rhamadan. The treatment practised was antiparasitic. The insect appears to be a tick—*Exchange.*

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

At the period of publication of the April number of this Journal, the Senior Editor was, on account of sickness, absent from this City and the Junior Editor was in Staunton.

The Editorial, for that number, was therefore prepared by a friend, who was unrestricted as to the choice of a subject, and unlimited, as to the mode of its presentation.

While the Editors publicly acknowledge the kindness, which, by request, undertook such labour, they have to regret, for two reasons, the nature of the subject selected: first, because the subject is one of local interest only, and being uninteresting to the Profession as a whole, is contrary to the policy which has (successfully or unsuccessfully) been a guide in the management of this Work; second, because it necessitates a reply, and the rule adopted in regard to

controversies, discussion must, from necessity, be waived. This, however, will, it is assumed, be the only occasion on which it can ever again become necessary to infringe a rule so important and so acceptable to the readers of all Medical Journals.

Audi alteram partem is an inculcation as necessary in a controversy of this kind, as it is in the weightier matters of the law.

The reply of the University is therefore voluntarily submitted.

The Editorial of the April number of this Journal does great injustice to the Medical Department of the University of Virginia. Professing to present "for consideration to the Medical Profession of the State" an impartial view of both sides of the question, respecting a proposed consolidation of that department with the Medical College at Richmond, the writer of the Editorial devotes more than four-fifths of his statement to a representation of the assumed advantages of the scheme, and allots less than half a page to a meagre account of the views which he ascribes "to those who oppose this scheme." The inconsistent declaration of neutrality in the closing paragraph of the paper served only to aggravate the injustice of the partisanship exhibited, in the very different manner in which the two sides of the question were presented.

The right of the Editors of the Journal to express and defend their opinions in relation to the proposed scheme, is not called in question, but in making use of the pages of their Journal for this purpose, they are bound in courtesy and in justice, as controlling the only special organ of the Medical Profession within the State, to offer its columns for the presentation of the opposing views. We are happy in knowing that the privilege thus claimed on behalf of the Medical Department of the University has been spontaneously conceded by the Editors in advance of application made to them.

Intending to be as brief, as may be consistent with the necessary requirements of the case, we content ourselves with reproducing a summary of the positions taken in a "Memorial of the Faculty of the University to the Rector and Visitors" and of the conclusions announced in a "Report of the Rector and Executive Com-

mittee" on that Memorial, merely adding, that if any of the readers of this Journal should desire to see the entire papers and will signify that wish, and their Post-office address, to the "Medical Faculty of the University," copies will be furnished them by mail.

The Memorial consists of two parts, one signed by the Medical Faculty, the other by Academical and Legal Faculties of the University. The former closes with the following summary recapitulation:

"In conclusion, we desire to say that, in our judgment, we have fully established the following propositions:

"1. That the two Virginia Schools command a larger aggregate patronage than either could command alone, and consequently that it cannot be to the pecuniary interest of the State to abolish either.

"2. That the Medical Department of the University at Charlottesville costs nothing to the State in money, but on the contrary is a source of revenue to its University.

"3. That the annual cost to the State of the Medical Department transferred to Richmond and enlarged by the incorporation of seven additional chairs would be ten thousand dollars for salaries alone, and this without increasing the number of students, and without any real addition to the practical clinical advantages of the School now in operation in that city.

"4. That the Medical School at the University has won the approbation of the American Medical Association, and of leading members of the Profession in all parts of the Uninon—that its peculiar advantages are admitted even by the parties who are now seeking to bring about its extinction, and that these advantages depend upon its academic relations—a fact which is virtually conceded by the Faculty of the Richmond School in their failure to introduce them into that School, when they were at full liberty to do so had it been practicable.

"5. That in a proper system of medical education, nothing is to be gained by the combination of theoretical with practical instruction, but that the two parts must be taken up successively, and that in all cases the theoretical should precede the practical—that the two stages need not be pursued in the same place or under the same teachers, and that the experience of all the celebrated medical

Schools of Continental Europe sustains this view of the proper relations between didactic instruction in the theory of medicine and personal practical study of disease at the bedside."

To the representations of the Medical Faculty of which the foregoing is a rapid summary, the Legal and Academical Faculties deemed it "their duty to add their own earnest protest against the proposition to disintegrate the University by the virtual abolition of its Medical School," as a "project fraught with danger to the very life of the University." They expressed their unanimous conviction that the dependence between the several departments of the University was reciprocal, and declared that "if the Medical School cannot dispense with the moral pressure of the University discipline, neither can the Academic Schools forego the advantages which they derive from the coöperation of the Medical Department." * * * * * "With the absorption of two of our Medical Professors in the College at Richmond, two important courses of lectures would be effaced; the scientific department of the University, which it is our aim to maintain and enrich, would be impoverished by the loss of the Professor of Comparative Anatomy and Zöology, and of the Professor of Botany; and there would be none to supply a demand which is urgent enough to require the lectures, yet not extensive enough to support two Academic Professors or even one." "In such circumstances, the University would gradually, perhaps rapidly, lose its peculiar character, and thus would the creation of Mr. Jefferson, now instinct with life and crowned with honour, be ultimately deprived by the same fatal blow of its crown of honour and its principle of life."

The admirable "Report to the Governor and to the General Assembly" by the Hon. B. J. Barbour on behalf of the Visitors of the University, presents a convincing argument against the scheme and concludes as follows: "Finally, and by way of recapitulation, we protest respectfully, but firmly against this change," (the proposed fusion) "because,

"1st. It would be in contravention of the design of the founder, who with broad and liberal mind, comprehending the intimate relations and connections of all the branches of human knowledge, wished to bring them into close and congenial contiguity, and to

maintain between them that familiar and constantly reciprocating influence, which would make them keep touch and time with the ever expanding wants of society and civilization.

"2d. It would lead to grave complications, inevitable difficulties, and probable discomfiture.

"3rd. It would surrender a position good for what is at best but a prospective advantage.

"4th. It is unwise, ungenerous, and unjust in these days of trials and perplexities, to force a union between the Medical College of Virginia, and another which, if unmolested, will be self-reliant and self-sustaining.

"5th. It is an experiment against which we are warned by the history of the Medical College itself, and its failure would involve the loss of more time and money than Virginia has to spare.

"6th. It would establish a bad precedent, destroy the stability of the University, and remove the main incentive to exertion and progress.

"7th. The Medical Department has won a name which entitles it to retain the position it prefers, sactioned by the approval of all who have official or friendly connection with it.

"8th. There is every reason to believe, that the altered condition of our national affairs will make it more and more possible to sustain two Medical Schools in Virginia.

"In view of all which we beg that the Legislature will not order a change, which there is every reason to believe would only destroy one School, without at all benefitting the other."

To all which we will only add the single remark that the monopoly which the friends of the Richmond Medical College desire to secure for that School is utterly unattainable, for if the Legislature should abolish the Medical Department of the University by removing it to the City, a School on the same academic plan would be established in connection with some one of the Chartered Colleges of the State, and the Richmond Faculty would find to their cost that they had incurred, without any compensating advantage to their School, the indignant resentment of the best friends of the University, for having despoiled the institution of one of its members, thus fatally marring its unity and completeness.

NOTICES.

☞ The International Medical Congress at Paris.—The International Medical Congress will be opened at Paris on the 16th of August next. The Central Committee earnestly desire an active participation in the Congress on the part of Medical Societies from all parts of the world, by sending delegates to represent them.

By the third article of the Statutes, foreign delegates are admitted without any pecuniary consideration.

The undersigned having been appointed a Corresponding Delegate by the Central Committee at Paris, would urge upon Medical Societies the propriety of appointing delegates to the Congress as speedily as practicable, and reporting them to him, that he may forward them as early as possible to the Central Committee.

S. W. Butler, M. D.,
Philadelphia, Pa.,
Corresponding Delegate.

☞ Short Articles.—It is requested, that articles contributed for this Work, should be brief and practical. With few exceptions, long communications are distasteful to readers and are generally neglected; it is difficult to make room for them. Papers of merit are retained for many months, when, if the valuable truths contained were briefly presented, they would be promptly published. It is the desire of the Editors of this Journal to increase, relatively, the Eclectic Department, and, to effect this, original papers of limited extent are preferable.

☞ The Editors of this Journal wish it understood that they do not desire the subscription of any one who is unwilling to observe honourably and in good faith, the "terms" to which he subscribes. If any one is unable to pay five dollars within the period specified, or is unwilling to pay subsequently the additional amount necessary for his accommodation, it is requested that he will abstain from subscribing.

☞ Drs. J. D. Jackson and S. P. Breckinridge, of Danville, Ky., are making strenuous and laudable efforts to revive the "old fogie" so-called, but yet most valuable aid to a thorough medical training of the Students—viz. the office instruction. We heartily commend their enterprise, not only on their own meritorious account, but also in the behalf of an old system, than which there never has been yet anything better devised.

Seventy-five cents will be given for every copy of this Journal for October, 1866.

☞ Dr. M. Gonzales Echeverria, on Lake Mahopac, N. Y,, has opened an Institution for the treatment of Paralytic and other nervous affections. Correspondents will address him at 49 East 21st street, New York City. He is in all respects worthy of confidence.

☞ Notices to Subscribers, Advertisers, Contributors and Correspondents.

Those once ordering the Journal will each year be considered as subscribers, and the terms of this Journal adopted in regard to them. An order for discontinuing the Journal should be sent at least two months in advance. As is usual, no subscription or advertisement will be discontinued until arrears are paid.

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Contributions for publicatior must bear the signature of the writer, and must be communicated to this Journal exclusively.

Original articles should be written on one side only of each sheet, and the manuscript should be, by the sign (¶), divided into paragraphs.

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The terms of this Journal have been changed; see notice on the cover.

BOOKS AND JOURNALS RECEIVED.

Inhalations in the Treatment of Diseases. By J. M. DaCosta, M. D. Philadelphia, Pa. J. B. Lippincott & Co. 1867. From the Publishers.

Idiocy and its Treatment. By Edward Sequin, M. D. New York. Wm. Wood & Co. 1866. From the Publishers.

Modern Anæsthesia. By the Hon. Truman Smith. Hartford. Brown & Gross. 1867. From the Publishers.

Code of Medical Ethics. New York. 1867. Wm. Wood & Co. From the Publishers.

Science and Practice of Medicine. By. Wm. Aitkin, M. D., of Edinburgh. In two volumes. Philadelphia. 1866. Lindsay & Blakiston. From the Publishers.

The Renewal of Life. By Thomas King Chambers, M. D., England. Lindsay & Blakiston. Philadelphia. 1866. From the Publishers.

Why Not? A Book for Every Woman. By Horatio Robinson Storer, M. D. Boston. Lee & Shepard. 1867. From the Publishers.

Watson's Principles and Practice of Physic, Abridged. By J. J. Meylor, A. M., M. D. Philadelphia. 1867. From the Author.

Guide for using Medical Batteries in the Treatment of Nervous Diseases. By Alfred C. Garratt, M. D. Philadelphia. 1867. Lindsay & Blakiston. From the Publishers.

Flint's Practice of Medicine. By Austin Flint, M. D. Henry C. Lea. 1867. From the Publishers.

Transactions of the American Medical Association. Philadelphia. 1866-67. From the Secretary.

Action of Medicines in the System. By Fred. William Headland, M. D., B. A., F. L. S. Lindsay & Blakiston. Philadelphia. 1867. From the Publishers.

Action of the Reproductive Organs. By William Acton, M. R. C. S. Philadelphia. 1867. Lindsay & Blakiston. From the Publishers.

Report of the Metropolitan Board of Health. New York. 1866. From the Reg. and Cor. Secretary, Dr. E. Harris.

Treatise On Obstetrics. By Chas. D. Meigs, M. D. Philadelphia. 1867. Henry C. Lea. From the Publishers.

Angular Curvature of the Spine. By Benj. Lee, M. D. Philadephia. J. P. Lippincott & Co: 1867. From the Publishers.

Report of the Committee on Spotted Fever—So-called. By James J. Levick, M. D. 1866. Philadelphia.

The American Naturalist. A Popular Illustrated Magazine of Natural History. Salem, Essex Institute. May and April Numbers.

Biographical Memoir of Franklin Bache, M. D. By George B. Wood, M. D. J. P. Lippincott & Co. 1867. From the Publishers.

Valedictory Address of Graduating Class of National Medical College. Washington, D. C.

Minutes of Medical Society of North Carolina. 1867. Raleigh, N. C.

Report of the Pennsylvania Training School for Feeble-Minded Children. 1867. Philadelphia.

Report of Texas State Lunatic Asylum. 1867. Austin, Texas.

Constitution and By-Laws of the Houston Medical Association. Houston, Texas, 1865.

American, as compared with Foreign Fecundity. By H. R. Storer. Boston. 1867.

Quarterly Summary of the Transactions of the College of Physicians of Philadelphia. 1867.

Report of the Board of Health of Louisiana. 1867.

Vivisection. By Prof J. Dickson Bruns, M. D. In the New Orleans School of Medicine. From the Author.

An Account of the Yellow Fever, as it prevailed in Philadelphta in the Autum of 1762: A Paper presented to the College of Physicians of Philadelphia in 1793. By John Redman, M. D. Philadelphia. 1865.

Annual Announcement and Catalogue of Berkshire Medical College, commencing June 13th, 1867.

The following Exchanges are regularly received: The Atlanta Medical and Surgical Journal; Boston Medical and Surgical Journal; Braithwaite's Retrospect; Buffalo Medical and Surgical Journal; Chicago Medical Journal; Chicago Medical Examiner; Cincinnati Lancet and Observer; Druggist's Circular and Chemical Gazette; Galveston Medical Journal; Journal of Applied Chemistry; London Lancet—Original and Reprint; New York Medical Record; The Planter; Richmond Eclectic; New Orleans Medical Journal; New York Medical Journal; Pacific Medical and Surgical Journal; St. Louis Medical and Surgical Journal; Savannah Journal of Medicine and Surgery; Southern Journal of the Medical Sciences; Southern Medical and Surgical Journal; The American Journal of Pharmacy; The American Journal of the Medical Sciences; Dental Cosmos; The Detroit Review; Philadelphia Reporter; The St. Louis Medical Reporter; Le Mouvement Medicale, Paris; Journal de Medecine Mentale, Paris; Medical Press and Circular, Dublin; Revue de Therapeutique Medico Chirurgicale, Paris; Revue Medicale, Paris; Cincinnati Journal of Medicine; Canada Medical Journal; Journal of Materia Medica; The Ophthalmic Review, London; Dublin Quarterly Journal of Medical Science; Medical Mirror, London; Debow's Review; Littell's Living Age; The Farmer; London Punch, The American Naturalist.

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The Richmond Medical Journal.

Vol. III. JUNE, 1867. No. 6.

ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

Art. I.—Round Fibroid Tumours of the Uterus. (Being a Translation from the German of "Klob on the Pathological Anatomy of the Female Sexual Organs.") By Joseph Kammerer, M. D., and B. F. Dawson, M. D. New York.

The round fibroid tumour of the uterus is a growth consisting chiefly of connective tissues, is always round, more or less dense, of well defined outline, and easily enucleable from the surrounding tissue; it is also the most frequent of those tumours which affect the uterus, and although naturally benign, may easily terminate fatally, either from pressure upon neighbouring parts or other causes. It certainly constitutes the most frequent affection to which the female sexual apparatus is subject, after puberty.

Various names were given to these growths by the old writers: Tuberculum, (Morgagni,) Cellulo-fibrous bodies, (Bayle,) Steatoma, (Voigtel,) Sarcoma, Desmoid and fibroid tumours, &c.

At present we recognize the existence of two forms of fibroid tumours, which are best distinguished as the simple and compound.

The simple round fibroid tumour is developed from a limited portion of the uterine connective tissue, and grows by an independent proliferation of its elements, simply by displacing the surrounding tissue and thus completely defining itself from the rest of the uterine substance. It generally forms a spherical, whitish or reddish-white tumour, and usually of such firmness that considerable

force is necessary to cut it. The tumour is generally readily enucleated, from the tissue of the uterus; if a division is made through both tumour and uterus, the former rises above the divided surface in consequence of a retraction of the uterine substance.—The attachment of the tumour is merely by a slightly vascular and slender bundle of connective tissue; its surface, after it has been enucleated, is perfectly smooth and covered with a serous-like membrane; the cavity in which it was imbedded is also smooth, and shows no trace of rupture of tissue. A section of a simple round fibroid tumour generally exhibits dense interwoven lines of fibres, crossing in various directions and irregularly disposed; and those cases are exceedingly rare in which, on the divided surface, a somewhat denser, yellower nucleus is seen and around it a concentric disposition of fibrous lines. Here and there, in the extremest of the above fibres, short arch-like striated lines may be seen, marking the periphery of the tumuor.

As a second form, we may consider the compound fibroid tumour, which consists chiefly of a larger or smaller number of fibroids of unequal size, which are flattened by contact with each other and connected into one mass by loose connective tissue. In structure, the compound fibroids are not different from the single ones, only its component tumours are less dense in structure, more succulent and vascular, and their limits not sufficiently defined to allow of their easy enucleation. Kirvisch remarks that, whilst in the simple fibroid tumour, the fibrous lines are more or less regularly disposed around one centre. In the compound tumour several such centres exist, from which fibres of connective tissue ramify, and this is undoubtedly correct; still I must add, that in the majority of cases, the bundles of connective tissue arising from one central point are intimately interwoven with others coming from a different direction, and that, between the different prominences of the tumour, a loose connective tissue exists, composed of long fibres, which forms a kind of external envelop, and by which the whole mass is imbedded in the uterine tissue. The surface of such tumours is knobbed, lobulated and irregular, frequently smaller; newly-formed fibroid bodies are seen in the loose external covering, especially between two or more lobes of the tumour. These compound fibroid tumours

frequently seem to possess a kind of hilus, large veins apparently issuing from the tumour, opposite to which hilus the uterine substance is completely transformed into cavernous tissue. The arteries are almost imperceptible, whilst the veins form a considerable plexus. If you follow the course of the latter over the tumour, it is easy to perceive that they represent large sinuous canals, which extend longitudinally between the lobes of the tumour, receiving small ramifications, which converge from the periphery of the single lobes. Abernethy could never succeed in injecting the single lobes of the compound fibroid tumour; Dupuytren makes express mention of large arteries in the pedicles of fibroid tumours which protruded inwardly; and Caillard describes such an artery, which was of the size of the radial. In my own investigations I was unable to find arteries, even in large tumours. Once only I met with one, the size of an uterine artery in the hilus of a compound tumour, as large as a man's head.

The number of capillaries vary in different fibroid tumours; successful injections have shown a surprising number in contrast with the habitual paleness of the tumours.

Here it is proper to mention what Virchow has described as the telangiectatic muscular tumour (Myoma telangiectodes):

"The inferior portion of a large uterine fibroid tumour exhibited in its engorged tissue, isolated cavernous productions, which commenced as dense and seive-like tissue and gradually developed into large cavities, varying between the size of a hemp-seed and a pea. The walls between these cavities were of the thinness of those found in cavernous tumours of the liver, and consisted chiefly of smooth muscular fibres."—(Virchow, Archer, vol. vi., p. 553, 1854.)

Virchow frequently found indications of such productions in the large fibroid tumours of the uterus, but rarely so apparent as in the case just mentioned. I have likewise met with several cases in which this production was slightly apparent, and recently with a case in which it was considerable.

The size of fibroid tumours varies from an almost imperceptible size to that of a man's head, or even larger. Cases are mentioned of fibroid tumours attaining to the weight of fourteen pounds

(Brinz); Dupuytren saw one weighing twenty-five pounds; Gaulthier de Clanbry, one of three pounds; Voigtel mentions the cases of Reissel, Moreau, Pelargi and others, in which the tumours weighed from forty to sixty pounds.

The situation of fibroid tumours is almost exclusively in the body and fundus of the uterus. They are very rarely found in the cervix, and still more rarely in the vaginal portion of the uterus.—The progress of these tumors, according to their situation, is worth mentioning. We find them arising in the different strata of uterine tissue, and the direction in which they finally prominate or prolapse depends upon the situation of their point of origin. A fibroid tumour, developed from the centre of the uterine wall, grows uniformly, and prominates towards the uterine cavity, as well as outwardly, the latter prominence being the most considerable. If a fibroid tumour has been developed exactly in the middle of the substance of the fundus and grows to a considerable size, the uterus, from the external protuberation of the tumour, assumes a form similar to that in pregnancy, from which circumstance these two conditions may be confounded, as has occurred in instances known to me. Owing to the inward prominence of the fundus, which is always combined with elevation of the whole uterus, the uterine cavity is increased in breadth, and its superior wall is depressed and becomes convex. The uterus undergoes a similar change in form when the fibroid tumour grows from a point, situated in the median line, in its superior portion near the fundus. When the tumour is developed nearer to the peritoneal surface of the uterus, it prominates more towards the peritoneal cavity, and grows out of the uterus in such a manner that its attachment becomes constricted and neck-like, and afterwards a pedicle, which may be very thin.

Rokitansky states that such pedunculated tumours may even be detached from the uterus and float about in the peritoneal cavity, especially in the recto-vaginal space; or peritonitis may supervene, causing the formation of false membranes, which will render them immovable. Detachment of the tumour may be caused by a stretching and rupture of the thin pedicle, either from the weight of the tumour or contraction of the false membranes which are attached to the tumour. If a fibroid tumour has been developed near the mucous

membrane of the uterus, or its sub-mucous tissue, as is frequently the case, it grows towards and into the uterine cavity, and, at the same time, distends it. Gradually the tumour issues from the uterine substance being attached by a pedicle covered with a thin mucous membrane. When such tumours prolapse into the cavity of the uterus, they produce phenomena similar to those resulting from fibrous polypi. When a fibroid tumor is developed near the point of insertion of the broad ligament, it ultimately grows between both its laminæ; if the tumour grows at a higher point in the lateral margin of the uterus, the oviduct, to which the tumour is closely attached, arches over it, and is consequently displaced; if the tumour arises lower down, it causes no alterations in the form of the uterus, excepting a prominence on both sides of the broad ligament. A close inspection of a fibroid tumour, arising apparently in the broad ligament, will always lead to the discovery of a pedicle attached to the uterus, and consequently will enable a correct opinion to be formed as to the point of origin of the tumour. A fibroid tumour developed within the broad ligament generally prominates uniformly anteriorly and posteriorly; sometimes, however, it may protuberate to one side only, either the posterior or anterior, and cases may occur in which such a tumour may become pedunculated and prolapse into the recto or vesico-uterine space. I came into possession of a specimen a year since, in which a prolapsed fibrous tumour, the size of a walnut, with a thin pedicle, prominates from the point of insertion of the left broad ligament into the vesico-uterine space.—If a fibroid tumour is developed from the lateral margin of the cervix and grows out of the uterus, it causes the posterior laminæ of the broad ligament to prominate posteriorly, and markedly pushes the uterus in an opposite direction. If the tumour is situated laterally and low down, it causes obliquity of the uterus, the fundus of the latter being directed towards the side on which the tumour is.

Fibroid tumours arising in the vaginal portion (of the uterus) cause considerable tumefaction of the latter, growing into and distending the vagina, and an entire lip of the os may be involved, and present the appearance of a large pedunculated fibroid tumour, instead of the os uteri.

The alteration of form and position of the uterus occasioned by

a fibroid tumour depends upon its point of origin. As previously mentioned, tumours developed in the median line of the uterus cause uniform enlargement of the organ, similar to that occasioned by pregnancy. If the fibroid tumour arises in the median line of the posterior wall, the uterus gradually ascends from the pelvic cavity, its own cavity becomes elongated and its posterior wall convex, and a section of it presents a crescentic appearance. The uterus proper is situated at the anterior circumference of the whole mass. An opposite condition is found if the tumour originated in the median line of the anterior wall. The traction to which the uterus is subjected in both cases may become excessive and produce those alterations of position which have been described as *elevation of the* UTERUS; the vaginal portion and vagina become elongated, and the effects of the traction within the uterus are most marked in the region of the internal orifice, at which point a stricture of its cavity and thinning of its walls may cause obliteration of the former and expansion of the latter.

When a fibroid tumour grows from either side of the body or fundus of the uterus, after attaining a certain size, it pushes the uterus to the opposite side. If the tumour is likewise an interstitial one, it prominates into the uterine cavity, and a transverse section of the organ has a triangular appearance. If a tumour grows lower down, near or at the internal orifice, the entire uterus is in consequence pushed into an extra-median position, or is flexed laterally, with the fundus inclining towards the tumour. This lateroflexion is frequently only revealed on opening the cavity of the uterus, and is much more marked the nearer the fibroid tumour is to the mucous membrane and the internal orifice. When a fibroid tumour exists in the side of the cervical portion, which is of rare occurrence, after attaining a certain size, it will cause obliquity of the uterus, with inclination of its fundus towards the tumour.

If several fibroid tumours have been developed in the uterus, their individual effects upon its form and size are combined. The uterus often appears imbedded in a mass of tumours, and from its external appearance we can form no idea of the course of its cavity. It may be found in the lateral anterior, or (rarely) in the posterior periphery of the mass, or if the cavity passes through

the centre, its shape is much altered by the tumours projecting into it; in some places it may be contracted, or there may be a dilatation above a point of stricture; or it may be elongated, narrowed, and curved like a bow or the letter S; or it may pass around the periphery of one or more of the tumours; or even in some cases it may be flexed at an angle. Manifold and infinitely varied are likewise the alterations of form to which the uterine cavity is subject from tumours prominating into it at different points.

In regard to the microscopic anatomy of uterine fibroid tumours, we must first state that their structure is quite analogous to that of the uterus, the proportion of the several tissues constituting the latter, being altered in the fibroid tumours. In the majority of cases the connective tissue predominates, but we frequently meet with fibroid tumours, in which the smooth muscular fibres exceed the rest of the tissue (hence the name of fibro-muscular tumour and myoma) and it may generally be considered a rule, that the quantity of muscular fibres entering into the structure of a fibroid tumour is nearly in proportion to the succulence of the tumour.

Thin slices made with a double-bladed knife or razor, after being made transparent, show that the connective tissue of uterine fibroid tumours is frequently composed of broad, wavy fibres, crossing each other in various directions, and causing a small section to appear divided in various ways by fibres of connective tissue. The cells of the above tissue, few in number, are spindle-shaped and rather small with oblong nuclei, and distinct nucleoli. Stellate cells and spiral fibres of connective tissue (Försler), I have not met with hitherto in fibroid tumours. The fibres of connective tissue are united in bundles of various thickness, from which smaller ones branch off and unite with others. If these lines or fibres of connective tissue are divided parallel to their course, they present the appearance of whitish glossy lines, whilst those divided transversely appear grayish, which fact formerly led to the assumption that fibroid tumours consisted of white connective tissue, disposed in fibrous lines or bundles, the intervening spaces being filled with a grayish substance. Förster remarks, that in young soft fibroid tumours, more cellular elements exist, which may be transformed in fibrous lines and connective tissue. This is

the explanation given of the aggregation of nuclei sometimes met with in fibroid tumours, and I remember several cases in which tumours, resembling fibroids, but somewhat softer, consisted chiefly of large oval, densely crowded nuclei, in a homogeneous, partly striated, inter-cellular substance, which tumours I could not consider otherwise than fibroids at an early stage of development.

In the majority of instances in which fibroid tumours exist, the uterus is uniformly enlarged by an increase of its substance, either in consequence of general hyperplasia or diffuse proliferation of connective tissue. In the latter case the morbid process may be considered as affecting the whole connective tissue of the uterus, resulting in the formation of tumours by a local growth of connective tissue. Frequently, however, this increase in substance is unequal; isolated portions of the uterine walls being affected by proliferation of their elementary tissues, whilst other portions are unaffected or participate so slightly in the morbid process, as to be scarcely noticeable. The increase of the uterus in substance during the presence of fibroid tumours, is especially evident when the latter are developed within the uterine walls. When the tumours are situated more externally, or project from a pedicle into the peritoneal cavity, the increase of the uterus is much slighter.—Lastly, when fibroid tumours grow into and dilate the cavity of the uterus, its substance may even be diminished, from distension of its walls. In such cases the latter sometimes become membranous, and reduced to the thickness of one or two lines; but if in such cases, a considerable blennorrhœa of the uterine mucous membrane coëxists, the uterine tissue becomes the seat of diffuse proliferation of connective tissue.

The enlargement of the uterus is most apparent in young females, whilst in old women the uterus is generally found in a state of senile atrophy; in these cases the congestion occasioned by the presence of the tumour is insufficient to counterbalance the wasting resulting from age. In many cases, atrophy of the uterine substance attains such a degree that the walls of the organ become membranous, (Walter's Membranous Uterus.) Especially when compound fibroid tumours attain a considerable size the walls of the uterus may become so thin that the single tumours may be seen

and felt through them. In contradiction to the observation that the increase of the uterine substance is always most considerable in the immediate vicinity of the fibroid tumour, we must mention those cases of compound tumours in which, in the region of the hilus, the uterine parenchyma appears as if absorbed, by the presence of veins of large size.

The changes which we notice in fibroid tumours of the uterus, are partly owing to altered conditions of the latter and partly to the different stages of development of the tumour ; or they may result from morbid processes affecting the tumour primarily or secondarily.

It is necessary to state that the round fibroid tumour participates in all the changes to which the uterus is subject during menstruation and pregnancy, and this is especially the case when its tissue is analogous to that of the uterus. During menstruation we find the tumour enlarged and more succulent, and during pregnancy also the above changes take place. Fibroid tumours found in women who have died during the puerperal state, are peculiar for the flaccidity and softness of tissue. It is reasonable to suppose that fibroid tumours undergo an involution after the puerperal state analogous to that described by Heschl as occurring in the uterine tissue. The observations which I have been able to make in regard to this statement, although not entirely convincing, have in no way led me to infer the contrary.

Fibroid tumours of the uterus are subject to certain diseases, arising in their own structure, or developed in their vicinity by their presence, and ultimately involving the tumour itself.

In the first place, it must be mentioned that, in the neighbourhood of fibroid tumours, which prolapse into the cavity of the uterus, an inflammatory process, in the bed of the tumours, is often developed, beginning generally at the most dependent portion of its mucous membrane, by hypostatic hyperæmia, and leading to the formation of pus or ichor, in consequence of which the tumour is detached and expelled, either entire or in pieces, by labor-like contractions of the uterus. Thus metritis may ensue, resulting in the formation of pus or ichor, and may ultimately prove fatal from pyæmia. The patient may recover after the expulsion of a fibroid tumour in the above manner.

It rarely happens that the whole fibroid tumour is enucleated from the wall of the uterus by a purulent process in its circumference; such a process is generally accompanied with intense lymphangeitis. But whether the tumour is detached from the uterus by an ichorous or simply purulent process, it is always in a flabby condition, collapsed and œdematous. In very rare cases small purulent cavities are also found in the substance of the tumour. Rokitanski mentions a case in which a purulent sac, the size of an egg, arising in a pedunculated tumour, became adherent to the rectum and perforated it at three points.

When the mucous membrane of the most dependent portion of a pedunculated fibroid tumour becomes gangrenous, the gangrene may extend to the tumour itself without detaching it; the tumour, however, gradually sloughs away. Another manner in which a fibroid tumour projecting into the uterine cavity may be detached, is by destruction of its pedicle consisting of mucous membrane and uterine tissue, by gangrene, in consequence of which the tumour lies detached in the cavity of the uterus, from which it is ultimately expelled by uterine contractions, or the tumour may become detached by rupture of its pedicle, which has become elongated by the growth and descent of the tumour.

A fibroid tumour may become affected with œdema (Cruveilhier), which often arises without known causes, and becomes considerable, especially in compound tumours. When the latter become affected, they suddenly increase in size, and represent fluctuating tuberous and irregular tumours, resembling cystoid tumours of the ovaries.

Upon section, we frequently find the succulent connective tissue between the separate tumours of the whole mass, extraordinarily œdematous and infiltrated with a pale yellow or greenish fluid; each single tumour is separated from the others by a firm white substance, which gives the whole mass a peculiar appearance. The more compact, round and simple fibroid tumours are rarely affected with œdema, and are not visibly altered by it.

Kirvisch repeatedly noticed, especially at the menstrual period, or previous to a hæmorrhage, an exceedingly sudden increase of these tumours in volume, in consequence of which their circumfer-

ence was increased in a few hours nearly half an inch, and again decreased with the same suddenness.

Within some fibroid tumours a cavity may be found, and this occurs in several ways. They either result from a dropsical condition, or the connective tissue of the tumour undergoes colloid metamorphosis (mucous degeneration), commencing at the centre of the tumour, and in consequence of which its substance liquefies into an albumino-serous fluid. Finally, hæmorrhages into the substance of a tumour may lead to the formation of cavities similar to the so-called apoplectic cysts. When cavities are found in the centre of fibroid tumours, they are generally round and smooth-walled, and often are so large that their walls are comparatively thin, and assume the characteristics of a fluctuating tumour, on which account they may be mistaken for hydrometra, hæmatometra, pregnancy, or ovarian cysts. The inner layers of the walls of such cavities are generally in a state of fatty degeneration. If the cavities, however, are situated eccentrically in fibroid tumours, their origin, from a separation of the concentric layers of the tumours, is evident from their concavo-convex shape. The latter cavities, I am inclined to think, frequently arise primarily from hæmorrhage, for we generally find evidences within them of extravasation, in the form of rusty-brown deposits, or rusty-brown pigmentous discolouration of the innermost layers of their walls.—When the circumference of a fibroid tumour has been affected with ulcerative inflammation, collections of pus are frequently found in the peripheric cavities formed by the ulcerative process mentioned. Generally the contents of the various cavities in fibroid tumours are a clear watery, yellow or brown, sometimes turbid, and chocolate-coloured serum, or a viscid fluid, or finally a gelatinous mass. In many of the cavities, especially small ones, the contents are found to be fresh blood.

Wedl sometimes found in them imperfectly defined spots, with indented elongations, occurring singly and unconnected with the blood-vessels, which he supposed to be newly-formed blood. I have never met with such a condition, and therefore simply quote Wedl's observations. Possibly in these cases he may have met with productions resembling those described by Virchow and myself

as *telangiectatic myoma*, the connection of which with the blood-vessels can easily be demonstrated.

From what has been mentioned, we conclude that fibroid tumouor may be affected with hæmorrhage; still, considering the firmness of the tissue of such tumours in an advanced stage of development, and their relatively small number of blood-vessels, we must assume that hæmorrhages in fibroid tumours will only occur when the latter are of recent growth, and consequently softer; or, when the tissue of older and more compact tumours has been altered by œdema, hæmorrhage might possibly take place into a cavity within the fibroid tumour. The probability of the former assumption is rendered possible by the fact that hæmorrhages in fibroid tumours rarely occur excepting during menstruation and pregnancy. We may also mention the possibility of hæmorrhage from the presence of *telangiectatic myoma*, and it is not improbable that, in consequence of the retrogressive metamorphosis of such an extravasation, the affection causing it may no longer be recognizable. The extravasation is generally slight, and the extravasated blood generally undergoes the changes usually found in apoplectic cysts.—Sometimes several such effusions are met with in one fibroid tumour, and I have never found them in tumours smaller than walnuts. Owing to the greater vascularity of compound fibroid tumours, extravasations are of more frequent occurrence in them.

In a woman who had fallen from a considerable height, I discovered a fracture of the pelvis, and an extravasation of blood between a fibroid tumour of the size of an egg and the wall of the uterus; half of the periphery of the tumour was surrounded by a thin layer of extravasated blood, by which one-half of the tumour had been detached. In scorbutic and similar conditions of the system, however, I have never met with such hæmorrhages.

The retrogressive metamorphoses to which fibroid tumours are subject are fatty and calcarious degeneration. In fatty degeneration, the muscular portions of the tumour are mostly affected, and we often find them transformed into fatty granular cells. Besides, this fat is always found in large or small drops. The cells of the connective tissue undergo a similar metamorphosis. The external appearance of a fibroid tumour undergoing fatty degeneration is

altered; it becomes flabby, doughy and soft; pits on pressure, and is very friable. Its colour changes to pale yellow or faded brown; on section, its structure appears uniform, it having lost its fibrous character. We frequently meet in combination with this fatty degeneration a considerable deposite of a fine granular brown or yellow molecular substance and granular calcarious salts.

Fatty degeneration of a uterine fibroid tumour frequently originates in the above manner during the puerperal state. Fatty degeneration of fibroid tumours sometimes occurs after the change of life, probably from senile involution, and a tumour undergoing such metamorphosis may thereby be diminished in size. At any rate, at the inception of fatty degeneration, any further increase of the tumour is arrested.

The second metamorphosis, which not unfrequently affects old fibroid tumours of the uterus, is calcarious degeneration or ossification. Dupuytren mentioned that the transformation of uterine fibroids, usually termed ossification, properly speaking, is only a process of petrification. Whilst fatty degeneration chiefly affects the muscular substance of the uterus, a deposit of calcarious salts generally takes place in the connective tissue of the fibroid tumour. The results of this metamorphosis are various. The calcarious salts, either cohere in the shape of an amorphus mass, devoid of organization, or in thin segments of it, we find transitions from calcarious degeneration to ossification. The intercellular substance appears either as an aggregate of large or small round bodies, or it is uniform, striated here and there, or it exhibits a laminated structure around large ducts. In the intercellular substance we find irregular angular black solid or hollow masses, consisting of pigment and fine granular salts, which fill the small spaces of the intercellular substance [Wedl], and must be considered as deformed rudiments of medullary canals. Besides these masses, we sometimes find degenerated or imperfectly formed bone-corpuscles of extraordinary size, but with few and short radiations. Sometimes, however, in isolated portions of such degenerated fibroid tumours, distinguished by their compactness and smoothness, we find bone substance, perfectly similar to normal bone, generally with very large medullary spaces. The formation of such normal bone sub-

stance in calcified uterine fibroid tumours was first observed by Wedl.

Calcarious degeneration of uterine fibroid tumours commences either at their periphery, or isolated centres are developed dispersely in various portions of the tumour, without originating from the centre of the tumour, which is of course its oldest portion. In the former case, flat concavo-cervex shells are formed, which finally coalesce, and may form a kind of osseous covering to the tumour, from which irregular processes sometimes radiate inwardly towards the centre of the tumour. Frequently, especially in nodulated compound fibroid tumours, isolated portions are calcified whilst the remaining substance is unaffected, or in a state of fatty degeneration. Although a fibroid tumour may appear to be calcified throughout, yet literally, this is rarely the case. Sometimes we find imbedded in the substance of the uterus round, whitish, heavy crystalline bodies of the hardness of bone, which are remains of calcarious degeneration of a fibroid tumour. Such apparently solid bodies on being sawed through, are found to contain irregular small spaces, filled with a soft connective or muscular tissue, frequently in a state of fatty degeneration; or we find a blackish-gray substance scattered through these concrete bodies, consisting of fine granular pigment between striated layers of connective tissue. If such concretions are maccrated they will resemble pumice-stone, and are particularly distinguished for their weight and compactness of structure. From a dissection of them we learn that they consist of a conglomeration of solid ivory-like portions, connected by a more earthy, chalky white calcarious substance. The mentioned substance is never visible in fresh sections, it being only found by the precipitation of calcarious molecules scattered in an intermediary substance, which has not yet undergone calcarious degeneration.

Concretions of such structure are either borne without injury, or they may be eliminated by sequestration, and this certainly explains the numerous cases recorded in older literature, of concretions being cast out of the uterus. Bartholin found such a blackish irregular concrete body, which weighed four pounds.

Calcified uterine fibroid tumours were formerly described as stony

concretions. Here we must also mention those cases described as petrification of the entire uterus (Fobert, Mohrenheim, Mackin and others, vide Voigtel) in which the organ, almost membranous from atrophy, was overlooked in consequence of the presence of one or several calcified fibroid tumours.

As in fatty degeneration, so in calcification of fibroid tumours, any further increase of the tumour ceases. Frequently calcarious and fatty degeneration affect different portions of the same tumour.

ART. II.—EPIDEMIC DIPHTHERIA. By PHILIP J. WINN, M. D., Fluvanna County, Va.

In the various reports upon the symptoms and treatment of diphtheritis, the writers have been minute and accurate in their diagnosis, and with commendable unanimity have agreed as to the general treatment; but unfortunately, in my opinion, have not been thus minute in stating at what period of the disease these various remedies may be most advantageously administered.

An experience in the treatment of not less than 340 cases of diphtheria will be a sufficient apology, I trust, for presenting some account of the most prominent symptoms and most successful treatment of two epidemics that occurred during the Summer and Fall of 1862 and 1863, in that portion of Fluvanna County, lying between the James and Rivanna rivers, about eight miles above their junction.

Symptoms.—The premonitory symptoms vary somewhat. In the adult these are lassitude, pain in the extremities, headache and drowsiness. In children these preliminary signs are rarely observed. The child often retires at night perfectly well, and awakes in the morning complaining of sore throat; he seems very sleepy, has fever, no appetite; and inspection reveals redness of the fauces and tumefaction of one or both tonsils—a white exudation upon the tonsils (very often upon one tonsil only), which commences in small irregular patches, and extends itself to the uvula and pharynx by the third day, if not arrested by early treatment.

These patches coalesce sometimes in a few hours, so as to conceal the whole mucous surface by the pellicular membrane.

Sometimes the exudation is first seen on the uvula. When the pellicle is white and the surrounding surface is of a deep red, the fever is sthenic; when of a yellowish colour, and the surface is a dark-livid, the fever is typhoid. The fever usually subsides about the third day, about which time the membrane begins to be removed, if the treatment has been applied early, and will be completed in from four to ten days.

If the child is not treated before the termination of the third day, the pellicular membrane, in the majority of cases, extends to the nares and palate by the eighth day, greatly increased in thickness; internal and external swelling, involving the submaxillary and parotid glands; stertorous breathing from mechanical obstruction; saliva dribbling from the mouth, and often a foul discharge from the nares; hoarse and indistinct voice; type of disease adynamic patient restless, tossing from side to side, and often changing from horizontal to the erect position, and dies by apnœa.

Prognosis.—In healthy constitutions the prognosis was favourable, if treated early.

Nearly all of those cases that were not treated until after the third day, more especially the severe cases that were attacked within the first few weeks after the appearance of the epidemic, died.

Of the first forty cases treated during the first three weeks after the appearance of the epidemic, ten died—seven whites and three blacks, six males and four females. This great mortality was, possibly, owing to several causes: to the absence of medical treatment within the first three days, and the rapid adynamic character of the disease; and in a few cases, I have reason to fear that the continued use of the topical application of the concentrated solution of nitrate of silver, *after the third day* (as then recommended by the majority of physicians), was more detrimental than beneficial. Of the ten, three were coloured children of one family, who evidently suffered from want of nursing and the careless and irregular administration of remedies; one died from sequelæ after convalescence, and two from a failure to administer either constitutional or local remedies.

The whole number of cases treated, including the two epidemics of 1862 and 1863, as also the sporadic cases that occurred in 1864 and 1865, were about 340. Of the 300, not enumerated in the first 40, 14 died—ten whites and four blacks, six males and eight females. The membrane descended into the larnyx, in four, within the first three days; four died suddenly from the sequelæ, after convalescing from the local disease, which was of a mild character. The majority of deaths were between five and ten years of age; only one adult, which occurred about the eighth or tenth day.—Colour confers no immunity. This fact has been observed in most of the epidemics in the United States. A certain writer upon epidemic diphtheria that prevailed in Lima in July, 1851, and sporadic cases that occurred in 1855 and 1858, has stated that "the black race, up to this time, has been as resistant to this disease as it was to the yellow fever."

Etiology.—The first case occurred on the 12th day of August, 1862, and rapidly and simultaneously attacked the children of many families. The geological aspect of the country was rolling and elevated, excepting the flat lands adjacent to the James and Rivanna rivers. The infected district embraced about eight miles square, and "locality made no difference in increasing the severity or granting an immunity from the disease." After the first few weeks, adults were attacked, principally the parents or nurses of children who had suffered. Sporadic cases continued to occur during the following Winter; and on the 30th day of July, 1863, the first case of the second epidemic was observed, and, like its predecessor, spread principally among those children who had not previously suffered; a few, however, were attacked the second time, mildly.—In one instance, a young lady suffered three times, annually, to a day. Children at the breast, or under twelve months of age, are rarely attacked.

Epidemic influences I believe to be the principal causes of diphtheritis. It often prevails sporadically, endemically, and, under certain circumstances, seems to be contagious. The period of incubation would seem to be about eight days.

Diagnosis.—Some medical men have supposed diphtheritis to be a modification of scarlet fever; others have called it ulcerated and

malignant sore throat. Notwithstanding I have seen a genuine case of diphtheria, accompanied for short and irregular periods with an eruption of the skin not unlike that of scarlet fever, yet I think they are distinct diseases.

In the Spring and early part of the Summer of 1862, and just previous to the appearance of diphtheria, several entire families of children and a few adults were attacked with scarlet fever. Most of these cases suffered also from diphtheria, three of which died.

There is a material difference in the local affection. That of scarlet fever is attended with ulceration of an excavated character. When the pellicular membrane of diphtheria is removed, the subjacent membrane, though tumefied, will be found smooth and entire, unless, in a very few cases, the false membrane has been renewed and removed several times; then some excavations may be seen.

Treatment.—The treatment found to be most successful is divided into constitutional and local. As it is all-important to commence the latter as soon as possible after the onset of the disease, I prefer to use, first, a solution of nitrate of silver, from 10 to 15 grs. to the ounce of water, which should be applied to the white exudation twice in twenty-four hours, by means of a mop made of soft cotton cloth, or a sponge, firmly attached to a piece of whalebone or stick somewhat curved at the extremity to which the mop is secured; ever remembering that it should not be used after the *third* or *fourth* day, most frequently the *third.* It is also very important that suitable gargles should be used early and within the *first three* days; and among the many that have been recommended, I prefer those made of vinegar, water and salt, and diluted hydrochloric acid, to be used alternately every two or three hours, between the applications of the nitrate of silver. The first should be prepared of equal parts of vinegar and water, unless the former is very strong, in which event take two parts of water, to which add from ℥ ss. to ℈ ij. of common salt to each ounce of the mixture; the second by adding from ℥j. to ℈ij. of hydrochloric acid to one pint of water, and from one to two ounces of honey or syrup.

On or about the third day, whether the exudation is diminished or increased, the *acid* gargles above named should be discontinued, and the following solution substituted: Powdered alum, from ℥ ij.

to ℥ ijss.; tanic acid, from 15 to 20 grs.; boiling water ℥ vij.; and honey ℥j. This gargle may be used as early as the *second* day, if the pellicular exudation should be greatly lessened or removed, which very happy result has occurred thus early, in some cases, from efficient treatment in the first stages of the disease.

In a few cases, however, both the acid and astringent gargles, as above directed, not only fail to do good, but would seem to be detrimental, causing, at each effort to gargle, acute pain, which extends along the eustachian tube to the ear; inspection will exhibit the mucous membrane much swollen and of a livid-red colour; increased pellicular membrane and general swelling of all the glands, both internal and external.

In such cases, discontinue all applications that cause pain, whether local or constitutional remedies, and substitute a solution of acetate of lead; from 30 to 40 grs. to ℥ viij. water, to be alternated with mucilaginous gargles every one or two hours. At the same time apply rubefacient applications externally, such as mustard plasters, volatile liniment, spirits turpentine, or red-pepper cataplasms.

The constitutional treatment should be commenced as early as possible by a calomel purge, if the bowels are constipated, and the following draughts: Chlorate potassa, eight to twelve grains; tincture of chloride of iron, ten to fifteen drops; honey or syrup, a drachm; water, seven drachms; given every three or four hours to an adult, and diminish the dose according to age, so that a child from six to ten years of age shall take from one-third to one-half.

The fever usually subsides about the third day, notwithstanding the pellicular membrane may be increasing; and, as a majority of the severe cases are typhoid, the administration of stimulants, quinine and nutritious diet, will be necessary thus early in the disease, which will not only hasten convalescence in the successful cases, but, conjoined with the chlorate of potassa and tincture of chloride of iron, will, no doubt, prove to be the most certain prophylactic against the troublesome and serious sequelæ that too often follow.

Owing to difficult deglutition and the pain incident thereto, as well as disinclination to take nourishment, it will sometimes become

necessary to support the patient by "an enema of strong beef-tea and port wine (one ounce of each) every three or four hours; also, from two to five grains of quinine may be added to each alternate injection; milk may be substituted for the beef-tea.

Children under four years of age are unable to gargle; and since the frequent application of a mop, together with the evil consequences resulting from the resistance of the child, is injurious, all such applications, excepting that of the nitrate of silver as heretofore directed, should be omitted, and, in lieu thereof, the child should swallow from one to two teaspoonfuls, each, of the vinegar and salt mixture, and alum and tannin solution, as before directed, as a gargle for older children—the vinegar and salt mixture to be given every two hours, and sometimes oftener, during the first two or three days, when it should be discontinued, and the alum and tannic acid solution substituted. As the tannin is incompatible with the tincture of chloride of iron, the latter should be omitted while the former is being administered.

Mercury in any form, except as a cathartic at the onset of the disease, in my opinion, has failed to do good. Blisters to the neck, or indeed to any part of the body, are decidedly injurious, since they fail to exercise any derivative effect, but cause an additional attack of the original affection. I have seen children who had received flesh wounds, a few days preceding or succeeding an attack of diphtheria, which took on the original disease of the throat; and in another instance, a little girl of five years of age, who had suffered with an indolent ulcer of the foot, was attacked with diphtheria of a mild form, which also attacked the ulcer and rapidly terminated in death.

Sequelæ.—A troublesome and serious complication frequently arises as a sequelæ to diphtheritis. The most frequent is that of paralysis of the muscles, either of the extremities of the neck of the pharynx, or of the larynx, and, in like manner, causes partial blindness, deafness and difficult deglutition.

The majority of such cases recover, with care, and under a judicious tonic treatment. From the best information that can be obtained of a few cases that died suddenly, after convalescing, of

the local affection, I am satisfied that the muscular fibres of the heart are also paralyzed in some cases.

There is another sequelæ in which the stomach and bowels would seem to be involved. I remember four cases, three males and one female, all under seven years of age, who had the local disease in so mild a form that medical aid was not called for in the first stages, and the children, to all appearances, rapidly recovered under local applications alone. Within a few days, however, they were suddenly taken with vomiting at intervals of two or three hours, pain in the epigastric region, obstinate constipation; universal paleness of the skin, lips and mucous surface, and œdema of the lower extremities in two of them. The matter ejected from the stomach of two, very much resembled the white exudation that is first seen upon the tonsils. All four of these cases died within sixty hours from the time they were taken sick.

Art. III.—Hypodermic Medication. By S. Baruch, M. D., Camden, S. C.

In the daily ministrations of the Physician there is nothing that he oftener encounters at the bedside, than pain. Though but a symptom of diseased action in many cases, it becomes our imperative duty to combat it.

Next to the prolongation of life there is no boon more ardently sought after by mankind, than the abolition of pain; and medical science may well boast of a triumph when her votaries bring forth some new and efficient means of abolishing this scourge of suffering humanity.

Among the many recent advances in our science much has proved ephemeral and visionary, but much also has been done that will confer untold blessings to our race. Preëminent among our therapeutical advances of later days, stands hypodermic medication, whose advantages I desire to point out, in order to enlist for it a more universal adoption by the Profession.

In Cities, which are the centres of science as well as of commerce,

this mode of medication is not new. Since 1855 it has found advocates who have spoken warmly in its praise. Yet our literature has not been enriched by many contributions on the subject, outside of articles in the periodicals of the day. Hence we find that this practice is still unknown in the more rural districts, where innovations seldom find a ready welcome, unless previously tested practically. Especially is this the case in the South, where we have been almost entirely deprived of reports on the subject during the past few years.

Owing to the frequently uncertain effect of medicines, when administered by the stomach, their unpleasantness, and impossibility of stomachic medication in some cases (e.g. children, the insane and in gastric complications) it has long been a desideratum in therapeutics to adopt some mode of administration that would obviate or at least lessen these difficulties. The rectum was naturally suggested first, and many are the benefits derived from this avenue of medication and nutrition. Next, Wardrop proposed the rubbing of medicinal substances into the tongue, which, though affording a more rapid entrance into the circulation, was only applicable to a few tasteless substances. In 1828 Lambert proposed the endermic method, which is even now much used.

Trousseau then recommended his hypodermic method and Lafargue his "inoculation par enchevillement," introducing soft solid medicaments under the skin, and last of all Laugenbeck introduced the inoculation of fluid medicines, as in vaccination.

But none of these methods have survived their more recent usurper, Hypodermic Injection, which was introduced by Alexander Wood, of Edinburg, in 1853. This consists of the introduction of medicinal solutions into the cellular tissue, whence, as has been amply demonstrated, it is absorbed with almost incredible rapidity. This process is accomplished by means of a small syringe, to which is fitted a hollow needle. The syringe is filled, the needle inserted boldly into the skin, which is first pinched up, and the fluid is slowly injected. The point of puncture has been a matter of dispute, but I always make the injection at or near the most sensitive point. If there is none, or if I aim at a general effect, the region of the belly of the deltoid muscle is a good "point of election." A

little blood will probably escape, which is soon stopped by pressure, or spontaneously ceases, unless a subcutaneous vein has been penetrated. The latter is to be avoided, as absorption is much enhanced, if the fluid enters the blood thus directly, and fainting may be induced. The danger from such an occurrence is, however, small and can easily be avoided by slow injection, for the effects are so immediate that the piston may be arrested, and even reversed before any deleterious results ensue. Nussbaum, a professor at Munich, records one instance of this rapid absorption in himself, after 2000 injections, but assures us that the danger is slight because easily avoided by the above precautions.*

The pain of the insertion of the needle is very little; that of penetration of the fluid into the cellular tissue is oftener complained of, passes away very soon. A small swelling arises at the point of puncture, especially when made through the skin of the forehead or temple. This will soon disappear. When opiates are injected nausea and sometimes vomiting follows, but this is usually not persistent.

These are all the unpleasant effects of this method, if carefully executed. Its advantages may be briefly enumerated as follows: We may use our remedies for patients who reject them by the stomach or who are unwilling to take them at all.

We have a full and definite effect from a definite quantity administered. There is no waste by decomposition, as in the stomach; a much smaller dose is required, varying from one-fourth to three-fourths less than the ordinary doses.

There is no unpleasantness to the taste, no need of struggling with one's patient's obstinacy or disgust.

The fluid is rapidly absorbed, requiring from five to fifteen minutes, and the physician is thus enabled to leave his patient free from pain in those numerous cases in which anodynes are required. The whole process is simple and effective. Thus it will be seen that the advantages of the method outweigh its disagreeable effects by far.

* In inserting the needle, the best plan is as follows: After a certain depth has been reached, inject a small quantity of the fluid; then pass the needle further, injecting more, and so on, until the whole fluid has been exhausted. This method lessens very much the danger of inflammation, induration or any of those accidents which bring pain to the patient and mortification to the Physician.—[ED.

Many medicinal substances have been administered hypodermically; among these I may mention morphine, narceine, sol. opii., codein, atropa, strychnine, veratrin, conin, digitalis, aconitin, woorara, datura, colchicin, and the various concentrated tinctures.

In this article I desire merely to call attention to the administration of anodynes for the relief of pain.* Herein the effects are really astonishing to one not conversant with the mode of medication. A case that occurred in my practice but a few days ago will better serve to illustrate this assertion than any encomiums. I was sent for in great haste to see an elderly lady of robust health.—While proceeding up a flight of stairs into the balcony, my ear was greeted by groans of agony such as I had not listened to often. As I entered the room I found the lady literally writhing in pain, two other ladies holding her and endeavouring to soothe her. She was almost crazed, and begged piteously to have her foot cut off. On examination, I found that the pain proceeded from the left foot, which was forcibly extended and motionless, presenting a swelling on the instep that was so tender that the slightest touch threw the patient into agony. Her pulse was not excited, the attack was sudden, and she had suffered in like manner before. On consideration of these facts, I concluded that I had before me a case of neuralgia, affecting the anterior tibial nerve. The swelling was at the point where this nerve forms a kind of ganglion, previous to the distribution of its fibres. I injected ten drops of Squibb's liquor opii. comp. over a point about the middle of the tibia, and in a few minutes the patient ceased her groans, and said she could now move her foot. After waiting half an hour I injected one-fourth of a grain of morph. sulph. at an adjacent point, and soon had the satisfaction of leaving my patient wrapped in slumber and free from pain.

Here, then, is a case that furnishes a correct and truthful representation of the beneficial, I would almost say blissful, effects of hypodermic injections.

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* As anodynes, I am in the habit of using Squibb's liq. opii, comp. dose gutt. v to xxx. sol. morph. sul. (gr. j. to dr. j.) aa. xv., xlv. It is prudent, in chronic cases, to begin with the minimum doses, but we need not hesitate to inject at once 20 drops liq. opii., or 30 or 40 drops of the sol. morph. sulph. The "Rubber Hypodermic Syringe" of Fiemann holds about 40 drops of Squibb's liq. opii. The piston is marked at one-fourth, one-half and three-fourthsof its length, and thus the requisite number of drops can be pushed out.

In neuralgias of the face, hermicrania ortie, in otalgia, lumbago, sciatica, in pains from whatever source (if anodynes are not entirely contraindicated, which will rarely be the case), these injections will bear results that will be as gratifying to the Physician, as they appear wonderful to the patient and his friends. I could cite many cases from my note book, but I will not occupy valuable space with such details, as every one may acquaint himself with, if he chooses so to do.

Neuralgia was once my dread. When called to a severe case, I felt most sensibly the inadequacy of our means of *immediate* relief. Now I cheerfully go to the bedside and assure my patient that succor is at hand. Thus far I have not been disappointed, and I desire to direct the attention of country Practitioners especially to this most admirable means of relieving suffering without delay.

Neuralgia may be successfully eradicated by these injections, especially in cases unconnected with organic lesion.

I do not hesitate to acknowledge, however, that in this section of country at least, I have met with rebellious cases, that have resisted long treatment. But such are usually controlled by hypodermic injections during the paroxysm and a combination of quinine, iron and arsenic in the interval. It is the immediate, the complete abolition of pain during the paroxysm, that alone is a boon to be cherished, and for this, I desire to enlist present appreciation.

Art. IV.—Proportionate Length of the Bones of the Extremities, as bearing upon Ethnology and Medical Jurisprudence.

By Samuel Logan, M. D., Prof. Anat., Med. Col. State of Virginia.

The subject of Ethnological Craniology has received an almost exhaustive analysis at the hands of Morton and others; but it seems to me that the more comprehensive subject of Ethnological Osteology offers many points which are yet to be investigated. Some years ago I proposed to myself to enter this field; and it was with this view that, for some time before the late war, I had been making observations of the character of those I now lay before the Profession. The notes in manuscript, however, were destroyed at the burning of Columbia, and hence the items going to form the following tables are fewer than I would have desired, being only such as I have had it in my power to collect since the war. I propose adding to them, and will be glad to receive the coöperation of any member of the Profession who may feel an interest in the investigation.

So far as I have been able to ascertain, the observations I now offer the Profession are original. The works on Medical Jurisprudence and Anatomy speak in a general way of the proportions found to obtain between the various parts of the body, but I know of no accurate admeasurements of the bones, nor of any observations showing the differences in the relative development of the different bones in the various races, nor even a statement that any such differences exist in the proportions of the two main segments of the extremities.

In comparing the bones of the various human races, two kinds of differences are observed, namely, those which are *natural* and those which are *artificial*. Examples of the latter class we find in the cranial bones of some races, as shown in Morton's works on Craniology—the distortions therein portrayed having been produced by compression in early life—while instances of the former class are seen in the normal differences between the oblique alveolar process of the negro, compared with the perpendicular one of the

Caucasian race—the different relative development of the cranial and facial bones of the two races, and the defective lachrymal bones of the negro, as first noticed, I think, by my friend, Prof. F. T. Miles, of Charleston, South Carolina.

These natural and artificial differences must, of course, be carefully discriminated. There will hardly be any danger of confounding them, however, when considering the differences to which I now propose to invite the attention of the Profession by means of the following tables of "Osteological Admeasurements." The relative length of the individual bones of the extremities, the relations between the length of those composing respectively the proximal and the distal segment of each extremity, and the differences in these respects found to obtain between the races, cannot be influenced by the customs and habits of either. They are, as we find them, essentially *natural*, and not *artificial*, differences. Whether they may possibly be the result of climatic and social agencies, working through successive generations, I will not now discuss—my present object being merely to record the facts as now existing, and to invite attention to their practical application in medical jurisprudence to the identification of bodies.

Without, then, any farther preliminaries, I will present the tables alluded to. I may add that, to avoid any mistake which might have arisen from the mingling of bones belonging to the two sexes and races, in the late stages of the dissection and before the admeasurements had been made, I marked with a saw each bone of each extremity of each subject in such a manner that, after the soft parts had been dissected away, I could identify the bones belonging to each, and the sex. I then rebuilt each skeleton on the tables of the dissection room, after the bones had been cleaned off, and measured them with my tape line. A similar set of tables might be made up from the live subject; but I have ascertained that the admeasurements cannot be so accurately taken.

Table No. 1 presents the individual admeasurements arranged as to race and sex. It is deficient as yet in the white female department, because I have not recently had many opportunities of measuring such skeletons, of the identity of each bone of which I could be quite certain. The measurements are made by inches

and decimal fractions of inches. An inspection of the table will explain its bearings.

Table No. 1—Osteological Admeasurements.

WHITES.

No. of Subject.		Humerus.	Radius.	Ulna.	Femur.	Tibia.	Fibula.
Males	1	13.000	9.250	9.875	16.500	12.500	13.250
	2	12.875	8.625	9.500	16.375	12.500	13.125
	3	12.500	8.500	9.125	16.625	12.250	13.500
	4	12.375	8.500	9.250	17.250	14.000	14.125
	5	12.250	8.500	9.125			
	6	12.125	8.500	9.375			
	7	11.750	8.000	9.000			
Female	8	12.375	8.750	9.500			
		8)99.250	8)68.625	8)74.750	4)66.750	4)51.250	4)54.000
Average lengths....		12.406	8.578	9.343	16.687	12.812	13.500

BLACKS.

Males	1	13 625	10 000	10 750	18 250	15 875	15 125
	2	12 750	9 750	10 875	16 375	14 250	14 000
	3	12 125	9 000	10 250	17 125	14 000	
	4	11 375	8 625	9 500			
	5	13 125	9 875	10 625	17 375	15 000	14 625
	6	13 375	10 000	10 750	17 375	15 375	15 000
	7	11 375	9 250	10 125			
	8				19 000	17 125	16 625
	9	13 250	10 125	11 250	19 000	16 125	15 625
	10	14 000	10 500	11 000	19 250	16 625	16 000
	11	13 125	9 875	10 875	18 500	16 750	16 000
Females	12	11 500	9 000	9 875	15 625	13 375	13 000
	13				15 500	13 250	13 125
	14				15 750	14 750	
	15				17 625	15 375	15 000
	16	11 375	8 750	9 375			
	17	12 125	9 500	10 250	16 500	14 625	14 250
	18	11 250	8 375	9 125	16 250	13 375	12 750
	19	10 750	8 250	9 000	16 125	13 375	13 125
		15)185 125	15)140 875	15)153 625	16)275 625	16)239 230	14)204 250
Average lengths....		12 341	9 391	10 241	17 226	14 951	14 589

Table No. 2 is intended to show the difference between the distal and proximal segments of each extremity. In order to present the relations plainly, and to facilitate the comparison between the two races mainly occupying this country, I have simply calculated the per centage borne by the distal segment to the whole limb. But since the distal segments are composed of two bones each—for I have not included in these tables any admeasurements of the hands or feet—I have made a special calculation for each of these bones. By the distal segments, I mean the forearm and leg.

A few remarks concerning each bone will be necessary:

1st. *The Humerus.*—The admeasurements were made from the

top of the head to the most dependent point, which will be found on the trochleal articular surface. I have avoided measuring from the top of the greater tuberosity because of the variable degree of development of this part of the bone, the variations depending upon the varying degree of muscular development. The greater proportionate length of this bone in the white race will be seen by observing the lesser per centage borne by the length of the radius to the whole limb in that race. As expressed in inches, the humerus (see Table No. 1) is relatively to the *radius*, nearly one inch longer in the white than in the black race.

Table No 2—Osteological Admeasurements.

Showing the Proportions between the Distal Segments and the whole extremity, by calculating per centage of former to latter.

WHITES.

No. of Subject.	Per centage of Radius.		Per centage of Ulna.		Do. of Tibia.		Do. of Fibula.
1	41.573		44.382		43.163		45.689
2	40.116		44.186		43.290		45.454
3	40.476		43 452		42.424		46.715
4	40 718		44.311		44.800		45.200
5	40 963		43.975				
6	41.212		45.454				
7	40.506		45.569				
8	41.420		44.970				
Greatest pr. ct'age	(No. 1) 41.573	(No. 7)	45.569	(No. 4)	44.800	(No. 3.)	46.715
Least do.....	(No. 2) 40.116	(No. 3)	43.452	(No. 3)	42.424	(No. 4.)	45.200
Average.....	40.873		44.512		43.404		45 674

BLACKS.

1	42.328		45.502		46.520		44.322
2	43.333		48.333		46.530		45 714
3	42.603		48.529		44.979		
4	43.125		47 500				
5	42.934		46.152		46.332		45 173
6	42.780		45.780		46.976		45.881
7	44.848		49.003				
8					47.404		46.020
9	43.315		48 178		45.907		44.483
10	42 857		44 807		46 341		44.509
11	42.934		47.258		47.546		45.300
12	43.902		48.170		46.120		44.827
13					46.086		45.652
14					48.360		
15					46.590		45.454
16	43.478		46.565				
17	43.930		47.398		46.987		45.783
18	42.675		46.496		45.147		43.037
19	43.421		47.368		45.338		44.491
Greatest pr. ct'age	(No. 7) 44.848	(No. 7)	49.003	(No. 14)	48.360	No. 8.	46.020
Least do.....	(No. 1) 42.328	(No. 10)	44.807	(No. 3)	44.979	No. 18.	43.037
Average.....	43.130		47.147		46.383		45.059

2d. *The Radius.*—In estimating the length of the upper extrem-

ity, I have chosen the radius, in preference to the ulna, as the bone whose whole length is added to that of the humerus, because its length is less influenced by the varying degree of muscular development, and because its manner of articulation with the humerus is such as to give the least variable result. If the generalization derived from these admeasurements be confirmed by further observation, we may designate the race to which a given example belongs, provided the humerus accompanies it. If the length of the radius constitute more, let us say, than 42 per cent of the combined length of the humerus and radius (see Table No. 2), according to the tables, the bone must belong to the body of a negro; if it bears less than that per centage to that of a white man. I need hardly stop to remark upon the importance of this fact in its bearing on the identity of bodies before a court of justice. We might turn the scales, *pro* or *con*, in a matter of life or death.

3d. *The Ulna.*—It will be observed that there is a much greater range in the length of the different specimens of this bone. This is readily accounted for by the greater or less development of the olecranon process, in accordance with the degree of development of the tricep muscle. If an ulna and its humerus be presented for examination, with the view of ascertaining to which race they belong, and the length of the ulna constitute 46 per cent. or more of the combined length of the two bones when applied with their articular surfaces in their proper relations for the extended position, the specimen may be said to belong to the body of a negro; while if it measure only 44½ per cent or less, it must have belonged to that of a white man. Of the identity of those measuring from 44½ to 46 per cent., I should not say we could affirm anything very positively. The inferences to be derived from the measurements of this bone are therefore not as reliable and accurate as those from measurements of the radius. This difference is to be attributed to the greater variety of olecranon development already mentioned.

4th. *The Femur.*—In measuring this bone I extended the tape from the highest point of the head, directly to the lowest portion of the tibial articular surface, avoiding the trochanter major for the same reason which actuated me in reference to the greater tuberosity

of the humerus. The greater relative length of this bone in the white man will be better appreciated by observing the comparatively lesser per centage borne by the length of the tibia to that of the whole limb. As expressed in inches, the femur (see Table No. 1) is, relatively to the ulna, more than an inch and a half longer, on an average, in the white race. The greater absolute average length of the specimens from the black race will probably be reversed when a larger number of white specimens have been measured, the four white subjects happening to have been smaller men.

5th. *The Tibia.*—In estimating the whole length of the lower extremity, excluding the foot, I have used this bone instead of the fibula, for obvious reasons. In measuring it, I extended the tape from a point opposite the end of the spine between the attachment of the crucial ligaments (this being the uppermost extremity of the bone) to the tip of the internal malleolus. The average per centage of its length to that of the whole limb (see Table No. 2) is seen to be 43.404 in the white race, while it is 46.383 in the black, the black tibia which bore the least per centage being proportionately larger than the white tibia which bore the greatest, as we also find to be the case in reference to the radius and the humerus—not, however, with so great a difference in the former case as in the latter.

We would infer from the table that if a given tibia measured more than 46 per cent. of the whole limb—computed as above mentioned, by adding the length of the tibia to that of the femur—it must belong to the body of a negro; if under 44 per cent., to that of a white man. This leaves, unless further measurements give us more positive results, about one per cent. (from 44 to 45) of doubtful ground.

6th. *The Fibula.*—The proportion of this bone to the whole limb is greater in the white. This surprised me, and led me to observe that the relation it bears to the tibia is totally different in the two races. In the white race, so far as my measurements as yet indicate, it is invariably somewhat longer than the latter bone; while the reverse obtains in reference to the negro. In the white it is sometimes an inch longer than the tibia, while in the negro it is sometimes nearly an inch shorter. If this difference prove to be

uniform, it will enable us, with only the tibia and fibula to examine, to say whether the body was that of a negro or white man.

Neither time nor space permits me to dwell upon the other interesting phases of this subject—such, for example, as the evidences thus afforded of an inferiority of organization of the one race when compared with the other—the greater length of the bones of the distal segments being a condition approximative to that found in the animals next below man in the zoological scale. My main object at present is to introduce this subject to the Profession, and to invite the coöperation of those who may be interested in its further investigation.

ECLECTIC DEPARTMENT.

"Floriferis ut Apes in Saltibus Omnia Limant."—LUCRET.

I.—MENORRHAGIA AND MENORRHAGIC PAIN TREATED SUCCESSFULLY BY THE SPINAL HOT-WATER. By JOHN CHAPMAN, M. D., M. R. C. P.

In 1863 I published six cases of menorrhagia, proving that the profuse menstrual flow may be arrested by the application of heat along each side of the lower third of the spine.* As many of the readers of this Journal are probably aware, the curative influence of heat when thus applied in such cases is exerted directly on the sympathetic nervous centres, and through them indirectly on the uterine arteries which by the increased amount of nervous energy transmitted to their muscular coats are made to contract, and so to diminish the flow of blood to the womb. The record of the six cases in question was preceded by some explanatory observations, a part of which it may perhaps be well to repeat here.

"It would be difficult either to enumerate or to estimate the advantages which will accrue to women from the power of arresting or regulating the flow of blood from the womb. Certainly, the

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* See "Functional Diseases of Women: Cases Illustrative of a New Method of Treating them through the Agency of the Nervous System, by Means of Cold and Heat. Also an Appendix containing Cases Illustrative of a New Method of Treating Epilepsy, Paralysis, and Diabetes." By John Chapman, M. D. London. Trubner and Co. 1863.

number of diseases indirectly caused by that anæmia to which many women are reduced by habitually profuse and too frequent menstruation is very great; in a large number of instances it is, I believe, the parent of consumption; it enfeebles the physical and mental energies, and impairs the constitution, and thus prepares a favorable nidus for the development of disease in general, and especially of any disease to which the patient may be predisposed. Apart from the consideration of the amount of actual disease from which many women may be saved by the power here explained and illustrated, the mere comforts which it is capable of conferring upon them is immense; if women who are in the habit of being subject to a sanguineous discharge during a third of their time can be so far relieved from it as to be troubled with it during only four days a month, the beneficial change they will thus experience will be very great indeed; while the soothing, pain-annulling influence of the treatment in question is not less remarkable. According to the general testimony of the patients, they feel soothed in a wonderful manner very shortly after the first applications of heat have been made. Indeed *a priori*, this result might be expected; the circulation of blood in the womb is lessened, not by the direct application of cold which acts as a shock, compelling those parts of the organ, including its blood vessels, with which the cold comes most in contact, to shrink and contract, thus also inducing different degrees of contraction in different parts; not by medicines mixed with the blood, and exerting an astringent force at the cost of changing the quality of that fluid throughout the body from its normal standard, but by a power acting exclusively through the agency appointed by nature herself—the nervous centres, and the lines of communication established between them and the parts over which they preside. This subtle power, from its mode of action, may be said to partake rather of the nature of persuasion than of force; its beneficial effects are not wrought by causing violent revulsions, or sudden stoppages of the sanguineous currents, but by inducing a gradual diminution of the volume and rapidity of those currents, and the fact that the changes in the blood-vessels are gradual, and subordinate only to the gentle influence of the ganglionic nervous system, may enable us to understand how it is that the action of heat in restraining uterine hæmorrhage is so peculiarly grateful to the patient.

"There is, however, another reason, I believe, why in cases of profuse menstruation, heat applied in accordance with the principles explained above exercises a powerful soothing influence. The undue loss of blood is commonly accompained by a sense of weariness, and a continuous aching of the back. The sense of weariness is, of course, partly due to the fact that the brain is inadequately supplied

with blood: but I venture to express the conjecture that the backache is due to a deficiency of blood in the spinal and ganglionic nervous centres of the affected part; that the pain is analogous to that form of headache due to exhaustion, or insufficient nourishment of the brain; and that it is removable by the same method as that by which the form of headache in question is removable, viz., by increasing the supply of blood to the nervous centres, which are the seat of the pain. If this hypothesis should be hereafter confirmed, it will afford an adequate explanation how menorrhagic pain is annulled by heat applied to the back."

The truth of these remarks appears to be strikingly exemplified in the following cases:

CASE I.—A. B., aged thirty-five, house-maid, has suffered from profuse and prolonged menstruation during several years. She has a heavy, sickly, and weary look, and has been obliged to leave several "places" on account of her general debility, and difficulty of carrying things up stairs. The menstrual discharge often lasts ten or twelve days, and is accompanied with great pain in the back, and a "sinking in the stomach." She says her back "feels as if it were coming to pieces." She finds some relief by pressure against it, and therefore places a pillow beneath it at night, and often sleeps with her arm beneath it. The discharge is so copious, that she is generally obliged to use about thirty thick napkins. She has been treated by a variety of medicines, and by mustard poultices applied along the spine until the back became very sore. At her menstrual period preceding the one in question, she became so ill, and was so weakened, that she was ordered, by her ordinary medical attendant, to leave her work, and give herself up to rest during a fortnight.

Having resumed her duties, she again became "unwell" early in the morning of November 1st, 1866, as profusely as usual. In the evening of that day, or about eighteen hours after menstruation recurred, an 8-inch, doubled-columned spine-bag, containing water at 120° F. (the bag having been warmed before the water was put in, so as not to lower its temperature), was applied along the lower third of the spine, and was kept on till the water became cool. The result of the first application was such wonderfully rapid and great relief to the patient's back, that she said, "I feel as if I were in heaven." The flow was meanwhile restrained to a very great extent. During her whole menstrual period, the bag was applied seven times, and each time remained on until it had become cool. The flow had quite ceased at the end of the fifth day, and had been so lessened in quantity, that but little more blood was lost during the four days after the treatment began, than was lost during the previous eigh-

teen hours. Moreover, the patient found herself generally very much better and very much stronger than during her previous periods. She said she felt as if she had got a new back; and as a proof of her unusual strength, she adduced the fact that, whereas generally during her periods she is obliged to ask one of her fellow-servants to perform one of her duties for her—viz., that of carrying water up stairs to her master's room in the morning, because she feels as if she should faint in attempting to do so, and did on one occasion reëstablish the flow by doing so, on this occasion she carried the water herself with ease. She also found that, whereas during her former periods, bending the body forwards and backwards caused great pain, she could, during her present period, rapidly do so without producing any pain at all.

Case II.—Mrs P., aged thirty, has long suffered from menorrhagia, so profuse that the blood at times literally streams from her, and has resulted in a terrible impairment of both her bodily and mental energy. The discharge usually continues six days, and towards the last, while still continuing extremely copious, presents all the appearance of pure arterial blood. She began to menstruate on the last occasion, October 21st, 1866, and after the lapse of twenty-four hours, the spinal hot-water bag was applied in the manner described in the account of Case I, but with this difference, that the bag as soon as it became cool was refilled with water at 120° F., and was kept applied almost continually during each day. The result was a diminution of the discharge to one-half of the usual amount (the patient is confident of this), and its complete arrest at the end of the fourth instead of the sixth day.

I may here observe, that I have received numerous testimonies from Professional men of the efficacy of heat thus applied in restraining menorrhagia. I shall venture, even without asking permission, to mention the names of three gentlemen who have experienced the value of the remedial power in question, and who, have given me assurances to that effect: Mr. Hammerton, of Picadilly; Dr. Goolden, of St. Thomas' Hospital; Prof. McLean, of Netley Hospital, and Dr. Fuller, of St. George's Hospital.—*Medical Mirror.*

II.—On Paraphymosis. By N. B. Wells, M. D., LaGrange, Ky.

In a practice of some twelve years extent, I have been called to treat some half a dozen cases of paraphymosis. In the first case, which occurred in a boy of about eight years of age, I tried the usual method of reduction, viz: by seizing the body of the penis

between the index and middle-fingers of either hand, and endeavouring to draw the prepuce forwards, at the same time compressing the glands between the two thumbs, and pushing it back. In this attempt I failed, and then resorted to the knife, dividing the constricting preputial orifice, which enabled me to bring the prepuce forward, after the application of some evaporating lotion.

The subsequent cases were reduced without the use of the knife, after the manner above indicated, excepting the last one, which occurred to me this day. It was the case of a little boy of some six years of age. Last night, by some means, he retracted the prepuce, and was unable to return it to its proper place. Great constriction about the sulcus was the result. The little fellow fretted and chafed all night under the pain attending his condition, and would not tell his parents what was the trouble, only answering that his bowels pained him, on being questioned by them. This morning, early, he, however, let them into the secret of his true condition, wherupon they immediately summoned me to his assistance. On arriving, I endeavoured to reduce the deformity by the method above indicated. After several determined efforts, which caused him great suffering, I was compelled to give it up, with the idea that I should have to resort to the bistoury. I examined Druit, Erichsen, etc., on the subject, and both these good authorities gave me no other comfort, after the failure of the *manual* method, save the knife. But feeling loth to resort to this method, in this case, I resolved to try an evaporating and astringent application for a few hours, with the view of reducing the serous effusion under the integument, and the general swelling and inflammation as well, and thus, possibly, be enabled to bring the prepuce forward to its wonted position, without cutting.

Accordingly, I made a strong solution of acetate of lead in pure water, and with this I kept the whole organ well enveloped for eight hours, by means of soft old cotton, and at the end of this time (this evening) I was able to reduce the paraphymosis with but little trouble or pain to the patient. Very soon after this he evacuated the bladder, and is doing well.

I do not report this case because I consider the treatment of it very instructive, or unique. Possibly, hundreds of cases of this class have been treated by my professional brethren in the same manner, or perhaps more skillfully. But the important point with me, in saying aught upon this subject is, that I may suggest the possibility, in many of these cases, of reducing them back to their natural state by means similar to that resorted to by me, in the above case, after failing with the *manual* method, and thus avoid the use of the knife, which is always fraught with much dread to

parents, in the case of small children, to say nothing of the actual pain of the operation. And if the application of cold and astringents serve a good purpose with juveniles, why not be of equal benefit in cases of adults? While I would not presume to say that the above case should establish its treatment as a rule, yet it certainly affords a slight hint of the propriety of its trial, instead of invariably and abruptly resorting to the knife, in all cases, where the manual or digital plan fails.— *Cin. Journal of Medicine.*

III.—Remarks upon the Anatomy and Physiology of the Ciliary Muscle in Man. By B. Joy Jeffries, M. D.

At the meeting, last year, of the society, I made some remarks on the anatomy and physiology of the ciliary muscle in man, and as recent investigations have seemed to confirm them, I shall take the liberty of presenting these in support of my views.

I said that I followed others in considering that the ciliary muscle in man, by contracting upon its origin, slackened up the suspensory ligament, and thus allowed the lens to become more convex—thereby accommodating the refractive media of the eye to divergent rays of light from near objects, and focusing them on the retina.

In putting together the anatomical accounts of this muscle, I could not make out that the muscular fibres known as Müller's circular fibres were a distinct mass, together enabled to act as a separate part of the whole muscle. In this I am now further confirmed by Mr. George Meyer's (medical student in Bremen) essay on the comparative structure of the annulus ciliaris in man and mammals, to which a prize was awarded by the Faculty of Heidelberg, and published in R. Virchow's Archiv., November, 1865.

Meyer states that "the *annulas ciliaris* in *man* is attached by a very thick fibrous net to the posterior and inner wall of Schlemm's canal, and over a short space of the adjacent sclerotic. The fibre bundles run in various directions from Schlemm's canal, some as a meridional layer, directly backward, lying close against each other to their insertion in the choroid, and others in a curve from outward inward (concavity toward centre of eye.) These last bundles form numerous intercommunications, and divide up into several smaller ones to again unite further on. There are thus formed numerous open spaces, which are mostly filled with Müller's circular fibres.— These open spaces are more frequent over the ciliary processes, and, therefore, most circular fibres are here found. These circular fibres

also frequently interlace; often some of the muscular bundles pass from their meridional direction into a circular one."

Prof. J. Henle's description and drawings of the ciliary muscle, lately published, agree with Meyer's. In his physiological remarks he considers "that the action of the circular and meridional fibres mutually assist each other in increasing the thickness of the muscle." He says accommodation is "produced, as far as we can now see, by the ciliary muscle, but in what manner this latter acts is still *unproved*."

In answer, therefore, to inquiry, and in explanation of my views, I would say, that I cannot consider the results obtained by Mr. Hancock's operation as in any way due to the incision of the ciliary muscle, and cannot see why a similar result should not follow opening of the globe further back, where there will be less danger of wounding the iris, zonula zinnii, and lens.

I have thought that the annulus ciliaris, or ciliary muscle, differed so much in animals from man, that it was useless to attempt to adduce from them its mechanism in accommodation in the latter.—Meyer's investigations seem to bear me out in this also, as may be gathered from the deductions resulting from his investigations.—He concludes that—"The *annulus ciliaris* of the *apes* consists of very long, contractile fibre-cells. Its topographical relations greatly resemble the human as regards origin, insertion and form. Open spaces are rarely present in the tissue, and Müller's fibres are entirely wanting.

"The *annulus ciliaris* of the *carnivorous* animals is muscular in character, its fibres run from before directly backward, and leave no interspaces. The circular muscular bundles and the so-called intercommunicating fibres are entirely wanting.

"The *annulus ciliaris* of the *rodents* is formed either of subscleral tissue or true connective tissue; it is, at any rate, very insignificant, and in some hardly perceptible.

"The *annulus ciliaris* of the *pachydermata* consists of connective tissue, the separate bundles of which lie, without interspaces, so close together as render them readily mistaken for muscular fibres. The ciliary band is in them comparatively thin, but extends far backward.

"The *annulus ciliaris* of the *solipeds*, of the horse, namely, consists of a fine net of connective tissue, which is stretched transversely from sclerotic to choroid. The whole tissue is thin and insignificant, and there is no appearance of a compact mass.

"The *annulus ciliaris* of the *ruminants* appears as a firm mass of grayish white colour, consisting of connective tissue. It is wedged-shaped, placed between the sclerotic and choroid, and varies

considerably in its dimensions. The individual bundles lie here also close together, so as to leave no interspaces."

Meyer gives plates of longitudinal sections of the ciliary muscle of a wild-cat and the annulus ciliaris of an antelope.

In the last number for 1865 of the Archiv. für Ophthalmologie, Dr. Heiberg, of Christiana, has published an article on the anatomy and physiology of the zonula zinnii, in which he concludes, from microscopic examination, that there are in it true muscular fibres, which, he thinks, by pulling on the capsule of the lens, flatten the latter, and thereby adapt it for rays from distant objects, producing what has been called negative accommodation. He gives microscopic drawings of these fibres from the zonula of the horse and also from man, resembling the striped muscular fibre of animal life with nuclei. Were this positively so, it certainly would be a very important fact; but Prof. J. Henle, of Göttingen, has, in the last published portion of his Systematic Human Anatomy, shown that this transverse marking is quite different from that of muscle of animal life, and is due to a very fine folding of the fibre, caused by the action of the acetic acid—the same as is produced on fibres of connective tissue. The zonula fibres are nearest allied to fibres of elastic tissue, yet differ from these in their reäction to acetic acid and potash. Finkbeiner thought he found striped muscular fibres in the zonula. Nuhn, as Dr. Heiberg, found that a certain proportion of these fibres became striped from the action of the acetate of the oxide of lead and acetic acid, and thought, therefore, as others (Camper, Retzius,) that they were muscular, although this could not be proved, either chemically or by electric irritation. Dr. Heiberg insists, however, that he found these fibres in the fresh horse's eye, before being subjected to the action of any chemical agent.

It would seem as if these fibres were but the peculiar tissue of the zonula. They are distributed through it all around the lens, as an elastic suspensory ligament—when considered together, recalling the zonula and ligament of some of the larger fishes.

Dr. Jeffries exhibited Henle's, Weber's and Heiberg's plates, and enlarged drawings of Weber's sections, a diagram in illustration of accommodation, and dissections of the eyes of the horse-mackerel (*Thynnus vulgaris*,) the sword fish (*Xiphius gladius*,) and the common small phoca of our coast, to explain and prove his remarks and deductions.—*New York Medical Journal.*

IV.—INUNCTION IN SCARLET FEVER. By THEOPHILUS PARVIN, M. D.

Inunction of the entire surface, in case of scarlet fever, should be regarded as one of the most valuable therapeutical means in the treatment of this malady. And yet we doubt whether it is so generally resorted to as we think it should be, by the great mass of the Profession. This doubt will justify our making a few remarks in regard to this treatment.

Dr. West—*Diseases of Children;* Fourth American edition, Philadelphia, 1866—speaks of it most highly, believing that its use considerably lessens the desquamation, and diminishes the risk of albuminous urine, should it occur, assuming a serious character. For the purpose of inunction, he advises suet, and directs the application to be made twice a day during the development of the rash, and once a day during its decline. And we have observed this practice invariably pursued in the hospital for sick children, London, with which Dr. West is connected.

Mr. Gee—*Reynold's System of Medicine;* article Scarlet Fever—speaks of greasing the skin once or twice a day, or oftener, bringing comfort to the patient.

Scoutteten regards inunction as a valuable prophylactic against some of the *sequelæ* of both measles and of scarlet fever. He advises either oil of sweet almonds, or olive oil, first slightly warmed by means of a water-bath, to be applied by means of a small piece of flannel, with gentle friction, over the entire surface except the face and feet. In the morning the patient should take a warm bath, and then, when well dried, the inunction should be repeated. "These two frictions and a single bath are often sufficient to remove all danger. Nevertheless, when the measles, and especially the scarlatina, may have been very severe, when the dead epidermis is not completely detached, when the skin remains dry and covered with bran-like scales, resort again to the oil and bath, until the suppleness of the skin is restored."

As to the kind of fatty substance or fixed oil, that is used, we do not think it material. We have used suet, olive oil, linseed oil, and even castor oil, and the beneficial results were equal, though probably one of the oils recommended by Scouttetten would be the least unpleasant; but certainly we would not counsel the bacon-rind, as advised by Schneemann, while still less would we approve of the *philochthonia* and *hyprophobia* indicated in the sentence: "The linen is not to be too often changed, and no water is to be allowed to touch the skin."

The directions given by Dr. West as to frequency of repetition of anointing, and as to bathing, furnish the best rules to be followed.

Now, how does inunction do good? That it does it can scarcely be doubted, after the testimony adduced; certainly will not be, so far as the comfort of the patient is concerned, by any practitioner who will have his next scarlatinal patient, when wakeful and restless with the heat and itching of the skin—burning and itching which the warm bath, or tepid sponging, can relieve but only temporarily—carefully anointed with warm olive oil, for the transition from restlessness and discomfort to comparative ease and quietness, will be an unequivocal and conclusive proof that we can thus render such patients much more comfortable; and in self-limited diseases, simply accomplishing this end is no little matter. But the promotion of this end is not all that inunction accomplishes. Years ago, when bacon-rind, almost exclusively, was used thus, one of our medical friends in Indianopolis, explained the beneficial results by the sedative influence upon the skin of the creosote in the rind.—But the fact that any of the other fats, and that fixed oils answered just as well, completely destroys the hypothesis. We have in scarlet fever, increased determination of the blood to the surface and increased skin-life, with greatly increased production of effete matter, in the shape of epidermic scales, etc. May not these accumulated and hardened upon the surface, be themselves a source of great irritation, exciting cutaneous *hyperæsthesia*, and obstructing cutaneous elimination? The oil softens this external layer, the bath removes it in part, and hence the integrity of the skin-functions is maintained, and thus, in part, the scarlatinal poison eliminated, without the kidneys becoming so seriously implicated, as they frequently are in this disease.

Certainly this supposition corresponds with the statement which we have quoted from Dr. West, in reference to the lessened desquamation, and the diminished liability to serious renal diseases which he has observed in those patients in whose treatment inunction has constituted an essential part—an observation which we believe will be confirmed by every practitioner who will follow the same practice and in the same way.—*Cin. Journal of Medicine.*

V.—Sore or Excoriated Nipples. By Daniel V. Folts, M. D.

"When fevers burn, or ague freezes,
Rheumatics gnaw, or colic squeezes,
Our neighbors' sympathy may ease us
Wi' pitying moan;
But thee—thou hell o' a' disease,
Ay mocks our groan."

If an aching tooth could thus arouse the Scottish bard to the utterance, if not of "thoughts that breathe," at least of "words that burn," I was wondering the other day, when his natal anniversary was being celebrated, what he would have said of the agony of nursing with sore nipples, especially had he been a mater-, instead of a pater-familias! Perhaps no other disease apparently so trifling, and never fatal, has caused a tithe of the sufferings in the lying-in chamber that this has. For centuries the Profession has been devising means for its cure. On the shelves of every physician's library are found volumes containing long lists of remedies for this affection. The mineral, the vegetable and animal kingdoms have all been laid under contribution. The salts of silver, of copper, of lead, of zinc and mercury, as well as those of alumina and potassa, have had their advocates. Time would fail to speak of all the washes and lotions—narcotics, emollients and astringents—to say nothing of the unguents, plasters and fomentations that have been employed. And yet so common is this complaint that a distinguished Professor in one of our large universities writes, "I am surprised when I hear one of my patients say that she does not suffer from it." It however affords me pleasure to be able to put it on record that my experience differs from that of the Professor—for a very large majority of my lying-in patients, in a practice extending over more than a quarter of a century, have been free from this source of suffering. And yet but too often have I been compelled to witness the terrible struggle between bodily pain and maternal affection, when the infant called for its natural food and the mother was attempting to supply it. When the attention of the surgeon was first called to the value of collodion in closing incised wounds and healing abraded surfaces, I thought surely, now we have it! But after having brushed over many an excoriated nipple, thereby adding suffering to misery by the smarting caused by the ether in the compound used, I was compelled to abandon it. For, aside from the pain caused by its application, I found that the artificial cuticle formed was as worthless as the narrow strips of adhesive plaster recommended by Dr. Physick, the power of the original

infant pump being usually sufficient in one application to disarrange the whole arrangement. At one time, in common with others of the Profession in this City, I had some confidence in "Parker's oil and ventilating nipple shield." In some cases, indeed, it answered a good purpose, but in more it utterly failed, so that of late I have ceased to recommend it. It has always been my opinion that, to cure a sore nipple, absolute rest of the part was as necessary as to heal an incised wound; and generally, I think, we shall find, as Dr. Gooch has it, that "we are rowing against the stream so long as the cause, viz., the action of the child's mouth in sucking, is renewed at short intervals." To succeed, then, the chapped or excoriated surface should be protected from the friction of the infant's tongue and gums; and this not for a few hours, or days even, but until it is healed and covered by sound integument. To fulfil this indication and not wean the child, has hitherto been a task difficult to accomplish. The various shields of wood, metal and glass, with all manner of teats attached, have been called into requisition; and besides those found in the shops, I have had others constructed by skilful mechanics. With these I have sometimes succeeded, but more generally the matter has ended in mortification to myself and disappointment to my patient. * * * * [Dr. Folts then speaks of certain other nipple shields which he had found possessed of much merit, but gives the preference to the one described in this article.] It remained for Mr. Kent, a well-known apothecary of this City, in his "Metallic Nipple Shield and Caoutchouc Teat," to supply this long-felt need. This is the only artificial nipple that I have ever used with unvarying success, and so admirably does it answer the purpose that the worst cases of sore nipples have entirely recovered without any local application whatever to the excoriated surface, beyond cleansing the parts and wiping them dry when the shield was removed. Glycerin unguent, or some other emollient application, might in some cases be advisable to soften the skin and promote granulation. Mothers who had suffered untold agony in nursing, and had resorted to all other means in vain, have been at once relieved by this simple appliance. The valvular arrangement is so simple that it is almost impossible for it to get out of order, and yet so efficient that a few inspirations of the child cause it to adhere so firmly that nursing proceeds much as if no artificial medium were interposed. What the infant thinks of the arrangement, we shall not, perhaps, at present be informed; but the mother says, "blessings on the head of the man who invented it!"—*Boston Med. and Surg. Journal.*

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

Clinical Notes. By Dr. L. U. Mayo, of Buchanan, Botetourt, Virginia.

Mrs. J———, aged thirty-five, has had three children; has been complaining for some days of "feeling weak" and an indisposition to attend to her household duties, with loss of appetite, wandering pains, slight chilly sensations, but no decided chill; feels worse as night approaches and is feverish; menstruation regular, but for many months back has been painful. (Dysmenorrhœa.)

At my first visit, on 21st November, found her confined to bed, complaining of great pain in left side of chest, slight cough, no expectoration, respiration painful, but not difficult nor increased in frequency; none of the physical signs of disease of the chest; pulse 80; tongue clean and moist; the day before had taken a dose of sulph. magnesia, which had opened the bowels. The left side of the chest was so painful she could not bear the weight of my hand upon it, with pain following the course of the sciatic and posterior tibial nerve of the same side.

As she had had, some five years previously, quite a severe attack of rheumatism, and has suffered since then, at intervals, with rheumatic pains in the larger joints; and the weather being what is called "rheumatic" (damp, changeable, with raw northeast winds), I diagnosed "neuralgic rheumatism."

She lived several miles in the country; and not having with me what I deemed the most suitable remedies for her, I ordered what I thought to be the next most appropriate, and gave the following—

℞—Pulv. Doverii.....grs. xv.
Hyd. C. Mit.....grs. j.

Every four hours, with warm fomentations of hops to the painful side.

On the 22d, though the pain was still severe, it was somewhat

less than on the previous day. I prepared and took with the following ℞'s, which I substituted for the treatment of yesterday:

℞—Potassæ Citratis.....℥ijss.
Sodæ et Potas. Part.....℥ ijss.
Vini Colchici.....f. ℥ ij.
Tinct. Opii.....f. ℥ j.
Aquæ .....℥ viij

M.—Dose ℥j. three times daily.

℞—Tinct. Opii.....℥ ss.
Ext. Belladonnæ.....℥ j.
Tinct. Aconite.....℥ jv.
Glycerini .....℥ ss.

M.—Ft. in Lotio. Apply to painful parts.

On 24th the patient was much better; dressed, but remaining on the bed the greater portion of the day; cough much diminished; local pains much less severe; submits to tolerably firm pressure; bowels sufficiently open; appetite returning; complains to-day of mouth being sore; saliva increased in quantity; gums a little swollen, but no fœtor of the breath. [Can this salivation be due to the colchicum? Are the time and the quantity in which it was taken sufficient to account for it, or was it due to the calomel given in the first instance, of which five grains were taken?] Ordered a gargle of alum, sage tea and honey for the mouth. Continue the recipes, as above.

On to-day, 26th instant, found patient dressed and sitting up.—Entire relief of pain; appetite natural; feels well, with the exception of the mouth, which is better. On yesterday the mixture vomited her once. The tongue remained clean and moist throughout the attack. As the bowels were not moved on yesterday, nor yet to-day, gave a dose of rhubarb and magnesia. Discontinued all other treatment except the gargle, and discharged the patient.

Several months after this attack, I met this lady, when she informed me that since then she has not suffered from her dysmenorrhœa, which clearly demonstrates its rheumatic origin.

Mrs. W. M., æt. 18, married 15 months (!!); has never con-

ceived. Catamenia, regular, appeared on 6th instant, and, though still present and superabundant on 18th instant, she mounted a horse and rode eighteen miles, in consequence of which the discharge was so much increased I was requested to see her on the morning of 20th October, 1865.

I found her sitting up sewing, complaining of the discharge and of pain in the back and loins, with a bearing-down, dragging sensation and weight in the pelvis; pulse somewhat increased in force and fulness; tongue clean, appetite good and normal; bowels regularly open. Other points in the history of this case made me suspect some displacement of the uterus. My suspicions were verified by the touch, which revealed a slight prolapsion of the organ, with engorgements of the neck.

My diagnosis was "active menorrhagia." Not deeming the increase in the force and frequency of the pulse sufficient to call for or to justify venesection, I ordered rest in the recumbent position—a dose of magnesia sulph., to be followed by a pill composed of plumbi acetat grs. ij., pulv. opii. gr. ss., pulv. ipecac 1-4 every four hours. The uterus was reposited.

On 21st the condition of the patient improved as relative to the pain, dragging and sense of weight; in other particulars, much as on yesterday. Omit the pills and give tinct. ergot in teaspoonful doses three times a day.

23d. Condition of patient much improved; discharge much reduced in quantity and at intervals, whereas previously it was continuous. She complains to-day of "colicky pains." These I attribute to the ergot; hence I reduced the dose of it one-half, as I did not desire too strong an "ergotism," and ordered a vaginal injection, twice a day, of a weak solution of alum in water.

This treatment was continued to the 29th, when I discharged her, leaving her with half an ounce of aromatic sulph. acid, to be be taken for three or four days in doses of fifteen drops, three times daily.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

Paris, April, 1867.

Several sittings of the Academy of Medicine of this City have lately been occupied with a discussion upon the mortality of young children given out to nurse. In France, parents, whose poverty or social condition does not allow them to provide for infants at home, are accustomed to entrust their children to hired nurses, who engage, for a stipulated amount, to take the child into the country and keep it there for one or more years. This system has proved fruitful of abuses, both on the part of parents and on that of nurses; for it not unfrequently happens that the *former*, conscious of guilt and pecuniary want, listen to no other feeling save shame or selfishness, and send away their offspring, careless of its after fate, whilst on the other hand, the nurses, becoming weary of their charge, neglect their engagements to the detriment of the child. Public opinion in all parts of the country became enlisted in behalf of these poor little victims, thus sacrificed to save their generators' honor, or through the cupidity of paid attendants. The discussion at the Academy of Medicine revealed many disgusting facts in this connection, and gave rise to several projects of reform, which have still to be carried into effect, and which it is not my intention to mention in this letter. The question of the mortality of nurslings has, however, brought up another point, viz: the state of the population in France; and as the principle of large armies now receives official sanction and requires many men, it will perhaps be interesting to give an account of M. Broca's researches upon this subject, which has been brought to the notice of the Academy. When the question of the mortality of nurslings was being discussed, M. Jules Guerin argued against the system of entrusting children to the care of mercenary attendants, not only on account of the very large proportion of deaths, but also owing

to the circumstance that the survivors remained sickly and delicate in after life. He feared also that the decrease in stature, noticed yearly in France, was traceable to the sufferings endured during early childhood, and as this decrease has a direct influence upon the number of men capable of bearing arms, he considered it necessary to remedy the evil by taking energetic measures to suppress the abuses arising from the system of hired nurses. M. Broca, in reply, claims that the decrease of stature, which is said to become yearly more apparent when the time is at hand for examining conscripts, is not due to defective educational precautions, for he proves by consulting the register of deaths that the mortality of young children has considerably lessened since the beginning of this century. Whilst from 1806 to 1809 the proportion of infants who died was 22.721 per cent., and went as high as 24.098 per cent. from 1820 to 1824, since this last period, a great decrease in the number of deaths has been remarked, so that the proportion was only 17.638 per cent. from 1860 to 1864. M. Monot, in a pamphlet recently published, says that the number of exemptions from doing military duty is annually on the increase, and that, in order to be able to raise the number of men the Government requires each year, it has been found necessary to muster in conscripts whose stature is less than the figure 7.56 *mètre* (an English foot is equivalent to 30.4.94 hundredths of a mètre) established by law.—M. Broca, in examining this assertion of M. Monot, does not admit its truth, notwithstanding the fact that the War Department has of late years reduced the standard of height. If it were true, however, that the average height of Frenchmen is declining, M. Broca would not attach much importance to this circumstance, and one of his reasons is, that the manner of arming troops at the present moment employs shorter weapons, and consequently the men need no longer be as tall as when the old-fashioned musket was in use.—This idea of limiting a man's height to the size of his gun, or, in other words, making a rifle the judge of the height a man should have, appears somewhat singular. By accepting, however, those conscripts, who are not 165 mètre high, the Government does not lose the services of persons who otherwise are fit for military duty, and thus does not condemn *tall men* alone to endure the hardships

of campaigning. The cause of this diminution of stature—in which diminution M. Broca does not believe—has been assigned to the abuse of intoxicating liquors, to tobacco, to the circumstance that the army selecting for its ranks the tallest and most able-bodied men in the country who cannot marry for a term of years, it follows that the weakly and small, escaping from a military life, become parents, and the children, like their generators, are more delicate and dwarfish. Another reason, too, is furnished by social considerations, and proceeds from the deplorable doctrines of Malthus and other economists, adhesion to which one regrets at finding among the members of the Academy of Medicine. In old countries, where the crowded state of the population limits individual wealth and, to a measure, individual enterprise, the unnatural practice of contradicting the designs of the Creator with respect to the number of children in families, is unfortunately of too common occurrence, and, from its immoral tendencies, one would be better pleased to see men of high social rank condemn the abuse, than to find a veil thrown over the disgusting picture and its necessity tacitly admitted. That this revolting spirit of calculation has penetrated deeply into the masses of the population is evident from the statistical tables M. Broca has collected, and which show that in the year 1800 each family in France had on an average *four* children, while at present the ratio has diminished to three. These results come from official sources, and speak for themselves, being an eloquent condemnation of the doctrines of economists; for as a leading Journal remarks in this connection, whether the decrease of fecundity in families proceed from the will of God or from the criminal designs of man, it is in either case a loss to the country in which this diminution is noted, for children are the principal sources of wealth, greatness and prosperity a nation can possess.—Notwithstanding the decrease in the fecundity of families since the beginning of this century, the population of France has been steadily on the increase since 1800, as will be seen by M. Broca's figures, which follow:

Period of years.	Inc. of pop'n therein.
1801 to 1811	174,373
1812 to 1821	136,914

1822 to 1831	210,734
1832 to 1836	194,337
1837 to 1841	137,853
1842 to 1846	264,061
1847 to 1851	76,537
1852 to 1856	51,239
1857 to 1861	135,578
1862 to 1866	132,759

It will be noticed that the above progression diminishes, in a remarkable manner, at two different periods. To account for the falling off from 1847 to 1851, there are the famine of 1847 and the revolution of 1848, and in 1854, several causes, war, cholera and failure of the grain crop, combined to explain satisfactorily the comparatively low figure of increase. From the foregoing statistics, it will be seen that the population of France has gone on steadily augmenting since the commencement of this century, and this, notwithstanding the decrease in the number of children each family, on an average, presents. In order to furnish an explanation of this apparent contradiction, M. Broca says that the average duration of human life has become longer. Thus, at the close of the last century, the mean range of life was twenty-nine years, whilst De Mont Ferrand gives 39.50 years as having obtained from 1817 to 1831, and Bertillon finds 40.15 years as the result of statistical tables collected from 1840 to 1859. Another means of reconciling the decrease of the fecundity of families with the increase of population consists in adopting the age of twenty years, for instance, as a standard, and comparing at different periods the number of those who have attained that age. Thus, towards the end of the Republic, only 502 persons out of 10,000 lived to be twenty years old, whilst from 1817 to 1831 the figure went up to 638, and reached 633 for the period from 1840 to 1849. Reasoning from these data, M. Broca concludes that there is no serious cause for alarm, but the idea that the increase in the average duration of life may serve as a compensation for the decrease of the fecundity of families, is probably destined, humanly speaking, to lead to deception—(in a moral point of view, such a doctrine is

not admissible)—for so many causes may combine to render a series of years disastrous to human life, that it is evidently risking a great deal to count upon this increase in the average duration of existence, since the time must come when this increase will cease. Supposing the proportion of children, on the other hand, to continue diminishing as has been noted above—and no one can assign a limit to the decrease as long as the same social doctrines prevail—what will then happen in case of famine, prolonged war, etc? The consequence need hardly be expressed, for it is evident that the population, instead of augmenting, will speedily begin a retrograde movement. M. Broca combats the opinion that the number of exemptions from doing military duty annually grows larger. He examines the statistics of the military medical boards from the year 1836, from which time greater care was bestowed upon the examination of conscripts than had previously been the case. In 1836 the military surgeons declared 61 men out of a hundred fit for military duty. In 1858 the proportion was 66 per cent., and the maximum has since been 67.06 per cent.

It is therefore an error to assert that the number of exemptions is on the increase. In 1853, '54, '55, '56, the proportion went even higher than the above figures, since it was 69 and 70 per cent., but it must not be forgotten that these were exceptional years in which 140,000 men entered the army instead of 100,000, as is usually the case. To raise the 40,000 extra recruits, certain portions of the country were drained, and M. Broca believes it would be dangerous to muster into the service annually more than 100,000 conscripts. It is difficult to form general conclusions as to the average height of Frenchmen, owing to the fact that the army registers are frequently silent upon this point. From the documents he has however been able to consult, M. Broca thinks that every year the number of young men who are exempted, owing to their diminutive stature, becomes smaller and smaller. On examining the army records, he has also found that since 1836, the number of *tall men* has augmented, although the contrary opininion is generally credited. It is noticed too in the army, that sometimes there is a greater proportion of small than of large men, and then again, during another series of years, tall men are more numerous. M. Broca

attributes this species of compensation, which is occasionally observed, to the circumstance that the population of France is composed of two principal races—the Belgian—a *tall*, light-haired, blue-eyed people, inhabiting the Northern and Eastern portions of the Country, and—the Celtic—occupying the Southern and Western districts, in which it is common to meet with men of dark complexion and *low stature*. When, therefore, in certain years the population of the Belgian portion of the land increases unusually, it is not surprising to find many *tall* soldiers in the army, and the same is true for *small* men when the *Celtic* race increases without a corresponding augmentation in the Northern and Eastern departments. From the military records M. Broca has consulted, he comes to the conclusion that, since 1836, the average of stature is on the increase in France, contrarily to the opinion of MM. Jules Guerin and Monot. Upon the whole, therefore, he believes that there need be no serious apprehensions either concerning the state of the population or with regard to the dwarfishness with which the Country was believed to be threatened.

M. Berthillon, by comparing the population of France with that of other European nations, proves that in this country the different component elements of the population are more equally distributed than elsewhere ; thus in France at the present day there are fewer children than in other parts of Europe, (the advantage this comparatively small number of children is supposed to confer, arises from the view which considers infants as constituting an unserviceable class of society.) The proportion of adult men, which represents the strength of the Country, is larger than in neighbouring States, whilst the number of aged persons is also more considerable. Notwithstanding the brilliant and perhaps to a measure, exaggerated colouring of the foregoing statement, M. Broca regrets the forced celibacy to which soldiers are condemned in France, and it is evident too that the decrease of the fecundity of families casts a shade over the brigher tints upon which he dwells with complacency, especially as it is the poorer class, i. e., the larger portion of the population, which from its pecuniary situation is liable to lend a willing ear to immoral and selfish calculation. Although M. Berthillon's comparison may quiet apprehension for the moment by giving

an assurance of the ability of the Country to organize a very large army, still in case of disasters occurring to the *adult* population from war, famine, or other causes, the doctrine of diminishing the fecundity of families from so-called economical reasons may give rise to regret sooner than can be anticipated.

Prof. Jobert (de Lamballe) has just succumbed under the distressing mental affection which during the last eighteen months rendered his retirement from active life necessary, and the School of Paris has sustained another loss in the person of Supplementary Professor Racle recently deceased. M. Racle was still young, and by the amenity of his manners and his scientific labours, he had acquired a deserved popularity. T. L.

PHILADELPHIA, May, 1867.

Medical News in the Quaker City is at present at an extremely low ebb. The regular courses in the Colleges have been superseded in miniature by the Summer Schools—the chief difference between the two courses being in the *personnel* of the Professorships, and in the comparative paucity of students, marking the latter. The health of Philadelphia is remarkably good, whether owing to the skill of our Physicians, to the weather, or to hygienic precautions, I cannot determine. From personal observation, I certainly do not think the latter agent instrumental in producing such a beneficial condition in sanitary affairs. The weather has been unreasonably cold for the past three weeks; consequently we have had an additional installment of slight catarrhs. The sun is warm enough, however, to-day, and there is an undefinable general appearance, as it were, in the atmosphere, indicating the final commencement of Summer. We all sincerely trust that one of *last* Summer's visitors, will not this season, trouble us with his calls—the Cholera. As yet we have had no intimation of its appearance, nor any of its premonitions. The steamers and packets, too, arriving at this port and at New York, have thus far shown clean

bills of health. It is to be hoped that the desolating scourge may not soon again, throw its black wings over our fair Cities. In this connection, I would state from unquestionable authority, that the records of the disease, as given to the Public, from the Health Office, show but little over *one-half* the actual number of cases and mortality. These records state that nine hundred deaths occurred from cholera, from its appearance, to the time of its departure.—But those who certainly know, affirm that there were at least, say 1,600 deaths. Be that as it may, it is undeniably true, that many cases of cholera were not reported, various reasons being given for this omission or neglect. I have good reason to believe our Health Department is in a much better condition this season than it was the last to resist an invasion of the Great Destroyer. The *Medical News and Library*, the sprightly medical weekly of this City, stated last year that in Philadelphia, for some time previous to an inroad of cholera, "an epidemic constitution of the atmosphere has always manifested itself in an increase of deaths from bowel complaints;" and as we have nothing of the kind now, we may hope that, with ordinary sanitary precautions, the scourge may be avoided. Have you seen "Notes on Cholera; its Nature and Treatment," by Dr. George Johnson? It is a small English work, excellently well written, and merits a perusal at the hands of all practitioners.

The College Commencements, this Spring, passed off with even more than usual èclat; the Jefferson holding its exercises in the Musical Fund Hall—the University its in the spacious building of the Academy of Music. It was indeed an enlivening scene there presented, as viewed from the stage of the Academy. Such was my pleasure, honour and privilege. The huge building was literally packed with the beauty, talent and èlite of Philadelphia, from parquette to gallery. The Jefferson graduated an even 150, the University 156. The matriculants for last session, at the Jefferson, numbered 356; those at the University, 464. Why the preponderance in favour of the latter I know not. At the time of my graduation in '58, the Jefferson's catalogue showed, I think, about 200 in excess of the University, from which College I obtained my diploma.

The Auxiliary Faculty of each School has fully entered upon

their duties, to continue through the Summer session. Both afford great advantages to students. The following gentlemen constitute the Faculty for the Summer at the Jefferson, with their chairs:

Prof. S. D. Gross—Clinical Surgery.
Prof. E. Wallace—Diseases Women and Children.
Prof. B. H. Rand—Chemical Toxicology.
Prof. Biddle—Mat., Med. and Therapeutics.
Dr. Da Costa—Clinical Medicine.
Dr. W. H. Pancoast—Visceral and Surg. Anat.
Dr. J. B. Brinton—Operative and Minor Surgery.
Dr. F. F. Maury—Venereal Diseases.
Dr. W. W. Keen, Jr.—Pathological Anatomy.

The chair of Pathological Anatomy is a recent addition, and one of very great value. There are but few schools in this country having a similar chair—Tremont, at Cambridge, and the Bellevue College (at least its Summer School), are all of which I am aware. Why this interesting, useful and intricate branch of science should be thrown on the shoulders (already grievously taxed with preëxisting onerous duties) of the Professors of Practice and of Surgery, I cannot imagine. We may not, in truth, have many Rokitanskies in our medical midst, but we have many sufficiently approximated to that eminent teacher as to warrant us having a *distinct* chair of Pathological Anatomy in our *first class* schools at least:

The Summer School of the University, likewise now in full operation, is organized as follows:

Prof. Harrison Allen—Zoology and Compar. Anat.
Prof. H. C. Wood—Botany.
Prof. F. V. Hayden—Geology and Mineralogy.
Prof. H. Hartshorne—Hygeine.
Prof. J. J. Reese—Med. Jurisp. and Toxicology.

Both Colleges have fair classes; and, as more especially in the Winter season, nearly every State in the Union is represented.—We miss, however, the large number of Southern students, which, in former halcyon days, gave, as it were, a distinctive character to the Medical Schools of Philadelphia. This may be owing to the chronic "hard times," or to the blackening influence of the war-clouds, which have not as yet been blown away entirely from our skies.

Dr. Gross, as of old, holds fine Clinics, and he makes them as interesting and as instructive as ever. He presented, at a recent Clinic, a remarkable case of morbid growths on the breast of a woman—presenting, in a marked manner, great vascularity. Likewise a chronic luxation at the elbow, in a lad. The Doctor's treatment in the latter case was to fracture the olecranon by forcible traction, and make flexion at the same time. Dr. R. J. Lewis also holds Clinics, I believe, at the Blockly Hospital; also, interesting Eye Clinics at the Wills' Eye Hospital, of which flourishing institution he is the Chief Surgeon.

I do not know if you and your readers are acquainted with the new patella-fracture apparatus, designed and used so successfully by Dr. J. M. Boinot, of this City. If not, I beg leave to notice it through your columns. The instrument is the result of considerable reflection, and combines in it every quality to recommend it favourably to the Profession—cheapness, stability, lightness, facility of application, and perfect adaptation, *in toto*, of means to end. Any cutler or carpenter can furnish, in a short time, the instrument (I speak of *instrument* and *apparatus* as synonymous) in its more finished or beautiful form; but any country practitioner of ordinary mechanical turn can fashion for himself the *appariel* in a few minutes, which answers as well as any, so far as indications are concerned. In a communication on the subject, read before the Medical Association which met some time since in Baltimore, Dr. B. says: "The splint is given the form of a double inclined plane, for the reason that the tendon of the *rectus femoris* muscle is on a level with the upper surface of the patella, when the limb is forcibly extended, as in using a straight splint, and hence little or no surface for traction is presented by the superior border of the patella. This is not the case when the leg is slightly flexed, for the patella *then* rests above the depression between the condyles of the femur. The broad and concave surface of the upper part of the splint forms an excellent resting place for the posterior part of the thigh, while it serves as a point for counter-extension. The same may be said in relation to the lower part in its application to the leg, while it has the additional merit of not pressing upon the heel or tendo achillis. The tractors are merely pieces of leather,

with common cord attachments, which pass over pullies to rollers, which are notched and provided with a spring to prevent slipping in winding. A strip of ordinary three-inch bandage, at the ends, confines the limb to the splint at these points." I will endeavour to get a lithographic print of the splint, which explains itself, and will forward in my next letter. It is certainly a great addition to surgical paraphernalia.

I will mention a rather singular case occurring in Dr. Boisnot's practice. It seems that a man standing on the sidewalk, under the fall of a woolen factory, when a large bale of wool fell and struck him on the shoulders and neck. He was crushed to the ground. On examination, the Doctor found both femurs luxated; one on the *dorsum illii*—the other *on the pubis*. By Reid's plan, he succeeded in manipulating the bones into their right position. In this case, the patient inhaled in forty minutes twelve ounces of ether and one of chloroform—another interesting point. A full account appears in the next number of the *American Journal of Medical Sciences*.

The subject of Laryngoscopy is at last receiving in Philadelphia that attention due so highly important a subject. As a general thing, our medical men have declined any more than a superficial study of this speciality—thinking it, perhaps, too abstruse in its nature and ambiguous in its results to guaranty more than the knowledge of the *definition of the word*. It should be a matter of professional satisfaction to all to learn that it is pursued and taught in its utmost detail by Dr. J. Solis Cohen, of Philadelphia. It is a matter of gratification that in laryngeal affections, our treatment is guided *now*, not by scientific induction alone, but by absolute *fact*, as to lesion. Dr. Cohen has been very successful. Among his delicate operations, he removed a fibrous polyp from a vocal chord, without producing a contraction of the constrictors, and without any assistance whatsover. Even in the light of manipulation, this is considered a wonderful feat. To a case of complete aphonia, extending over a period of several months, I will briefly refer, and will take the liberty, for better comprehension, to transcribe from the Doctor's report in the *New York Medical Record*:

* * * "The aphonia was complete; by no effort I could direct her to make, could a sound be produced. The voice

was altogether oral, and in a very low and feeble whisper. Laryngoscopic examination revealed no organic lesion, but the arytenoid cartilages moved but slightly, and that sluggishly, and the glottis remained patulous. The condition appeared to be an idiopathic paralysis of the thyro-arytenoid and other muscles moving the vocal chords. * * * * * I dipped a laryngeal brush in tinct. of iodine, and, inserting it between the lips of the glottis, swept from behind forwards the whole inferior face of the vocal chord. * * * After my patient recovered from the suffocative effect of the application, I again introduced the mirror, and was pleased to discern during respiration a proper movement of the arytenoids.—Directing a vocal effort, the anterior extremities of the chords were seen to approximate, though they did not touch their whole length. The paralysis being overcome, I insisted on the patient making a sound, but for a long time without effect. Eventually a short, sharp note, like the sound of a mouse, was produced; and from this I worked, pursuing the gymnastic efforts recommended by Bruns. I first selected the sounds easiest to make, those employed by the infant, as *ah*, *ah*, *ah*, making the patient repeat after me. Finally she was able to make this sound feebly. Then I began with *eh*, *eh*, *eh*, with similar result. The sound of the vowel *o* was the most difficult; next that of *u*; next *i*; the sound of *e* and *a* about alike. As soon as my patient could make the sound of *a*, *e*, *ah*, I began adding consonants, thus, *mam*, *mam*, *mam*, as a child does. Notwithstanding she could say *ah* very well, and make the *m* sound with the lips closed, she could not make the syllable, except in a whisper. Then I made her hiss between the closed teeth, and, during the hiss, rapidly make an easy vowel sound, she following all the time the sounds as I made them myself. Thus, *s* prolonged, quickly followed by *a* or *e*, making *say*, *see*, and so on. As she would make one sound, I would continue it, repeating it gradually more and more rapidly, until she could make it by her own effort. Even when she had succeeded in making the easier vowel sounds, on attempting to utter a syllable, it would come in a whisper. Suffice it to say, that, by continuing this exercise, gradually enlarging the difficulty and number of syllabic sounds, at the end of two hours she was able to converse audibly, but her voice had not its natural

strength, though it was of proper pitch. Her voice daily improved, and on the following Sunday, five days after her gymnastics, she sang in church with a great deal of gusto."

Dr. Cohen is a gentleman of high culture; is quite young, having graduated at the University in this City in 1860. He already has the respect and confidence of such men as Henry Smith, Gross, Pancoast, etc. During the recent war he served in the Navy of the United States.

I will crave, in another letter, the privilege of calling attention to Dr. Cohen's articles on Laryngoscopy, and to a work from his pen entitled "The Value of Inhalations in the Treatment of Disease," now passing through the press of J. B. Lippincott & Co., of this City. If your patience will bear with me, I have also some interesting items of medical gossip to communicate, of all which, however, with your permission, more anon.

W. M. T.

Charleston, May 27, 1867.

Editors Richmond Medical Journal:

Will you, in your Journal of the 1st June, give publicity of the resignation of Prof. James Moultrie from the Chair of Physiology, and Prof. Thomas Pridleau from the Chair of Obstetrics, in the Medical College of the State of South Carolina.

The Trustees and Faculty will enter into an election to fill the two vacancies on Monday, 24th June, 1867, and would invite competition. Any applications addressed to me, as Dean of the Faculty, will receive attention.

Yours, truly, J. J. Chisolm.

Carter's Bridge, Va., May 28, 1867.

Editors Richmond Medical Journal:

I observe, in the May number of your Journal, an article "on the removal of foreign bodies from the nasal passages," and it calls to mind a case which occurred in this vicinity a few weeks since.—

The subject was an infant. An ordinary garden pea had become lodged in the nasal passage. The ordinary methods for removal having failed, a small quantity of sweet oil was poured into the nares, and a pinch of tobacco snuff held to the nostrils; the sternutation resulting ejected the pea, throwing it a distance of several feet. The foreign body had produced considerable irritation and swelling, and could not be extracted with forceps, though the child was under the influence of chloroform.

Very respectfully, yours,

W. H. Shepherd, M. D.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

Lectures on Surgical Pathology. By James Paget, F. R. S., &c. Revised and Edited by Wm. Turner. Third American Edition, pp. 737. Philadelphia. Lindsay & Blackiston. 1865.

This is a reprint of the second London edition. We are happy to observe that no one has presumed vainly to add to the title "amended and improved by the American editor!" The careful, accurate observer, profound thinker, the beautiful writer has been permitted to speak for himself without interruption.

The subject of this work bears similar relation to the principles and practice of surgery, that chemistry does to the other natural sciences. It deals with morbid changes in the elements of the tissues. The forms, the metamorphoses, the movements of cells, the laws which regulate them under causes of aberration; the results of these occult operations are traced out in the work before us with a degree of clearness and accuracy which are perfectly wonderful to the plodding, laborious Practitioner.

It is impossible to give anything like an abstract of the Work.—It must be read and studied and pondered over to enable one to estimate its value and to obtain an insight into this rich treasury

of knowledge. We advert to one point, however, which we think will greatly interest our readers, after all the researches which have been made with the microscope into the elementary texture of cancer and while we are studying the nature of the characteristic cancer cell, all of a sudden we are astonished by the vanishing of the cell in the specimen before us and we find nothing left in the field of the microscope but fibrous tissue.

Under the head of *fibrous cancer*, pp. 665, the writer remarks; "For although in the very large majority of cases the structures of cancers are unlike those of the normal textures of the body, yet there are instances in which tumours, eminently cancerous or malignant in history and habits, approach or even attain to, close similarity to the natural tissues. * * * *

The life "of tumours is, in some respects, at least for the present, a better basis for classification even than their structure." After detailing the history of a case illustrative of these remarks, he adds, "all the characteristic features of malignant disease were thus superadded to the growth of a tumour which appeared to be in every structural character, identical with common innocent fibrous tumour."

We well remember our astonishment at a similar case which occurred in our own practice at Bellevue Hospital, near this City, (Richmond, Va.,) many years since. The patient, a negro woman of delicate appearance, but free from cachery, had her breast amputated for a tumour, which appeared to be of an innocent fibrous character. Its texture was carefully examined by the use of an excellent microscope, and so perfectly convinced were we of its innocent nature, that we gave very confidently a favourable prognosis. A few months afterwards, to our astonishment and mortification, the patient died from the reäppearance of the disease, accompanied by symptoms of cancer. In this case, we had no opportunity of ascertaining whether cancer cells were subsequently developed, but in the case referred to as related by Paget, no such cells were revealed by a post-mortem examination. We are here reminded of the chemical paradox, viz., a series of alums which contain no aluminium. B.

MISCELLANEOUS.

"Non Omnes Eadem mirantur Ament que."—Hor.

On Glycerine.—Dr. Enno Sander in a communication to the *St. Louis Medical Reporter* on glycerine says:

Its peculiar and remarkable qualities have already secured to glycerine numerous and extensive applications, which become constantly more manifold. Its ready solubility in water, alcohol and acetic acid, its great dissolving powers for all salts soluble in water, its beneficial action upon all animal tissues, its peculiarity to have the appearance of oil, without ever becoming rancid, render it of eminent value in medicine and surgery, where it is used already to a great extent. There were consumed 2,870,000 pounds of glycerine during the year 1861, in the Central Drug store of the Parisian Hospitals. Combining the properties of oil and water, it is frequently used in place of ointments and salves, where the external application of alkaloids soluble salts or vegetable matter is desired. It softens and dissolves all hardened, fatty substances, and has been used beneficially in diseases of the ear.

On account of its softening and soothing influence upon the skin, it is peculiarly adapted to the manufacture of fine toilet soaps. It also constitutes the menstruum of pomatums, hair oils, and such preparations for the hair, which are recommended as hair tonics and hair restorers. It removes dandruff, and heals the skin completely of this disease; it imparts to the hair brilliancy, gloss and softness, and keeps the scalp in an excellent condition. Being inodorous, not liable to become rancid, but, like oil, capable of extracting odors, it may be employed advantageously to extract such odors, the delicacy of which would be destroyed by distillation.

As it preserves its liquidity even in a very low temperature, does never assume a crystalline form, nor may be spoiled by rancidity, it has been used as lubricator for such clocks and instruments which have been exposed to the influence of the temperature; on this account it has been largely employed in gasometers. For the same reason it is used successfully for the preservation of microscopic objects, which remain fresh, and admit continuous observation.

Food, and other substances of such character as may become spoiled by the loss of water essential to them, have been preserved by immersion into glycerine, and meat, fish, fruit, etc., are reported not to have lost any of their original flavour and qualities after the glycerine had been removed by washing and soaking in water.

Capable of dissolving a number of dye stuffs, it is not only used in the manufactory of textiles, but also as coloring for liquors, which improve by its addition in richness and taste.

Glycerine should be pure for employment in medicine and for all the more subtle technical applications. For common use it may be more or less impure, according to the object it is desired for. Its definition and its deportment toward some solvents have been stated above; it remains yet to mention the reägents by which some of the most common impurities may be discovered. If alcohol, containing one per cent. sulphuric acid, form a precipitate or only a white turbidity with glycerine, the presence of lime is indicated, and if the diluted solution of potassa produces a brown tint on boiling, some foreign organic substance, as, for instance, glucose, will be the cause of it.

It is said to be frequently adulterated with sugar syrup, which may always be discovered by an examination with polarised light. Glycerine has no optical rotary power, while all kinds of sugar turn the plane of polarisation either to the right or left. Cane sugar may also be detected by chloroform, which dissolves glycerine, and leaves the sugar undissolved; and glucose, by boiling the suspected article with an alkaline solution of sulphate or tartrate of copper, which will precipitate from the bright, blue liquid, the red suboxide of copper in case of an adulteration.

On the Use of Sulphate of Soda in the Treatment of Erysipelas.—Dr. Addinell Hewson stated that he had been using the solution of sulphate of soda as a local application in erysipelas since February, 1864, and had obtained results from it, in the various forms of that disease, which were to him both interesting and surprising. He had been induced to try it from the representation made by Prof. Polli of its influence in destroying all diseases of a cryptogamic or animalcular origin—a source to which recent researches would lead us to suppose erysipelas was due. At first he administered it internally, in doses of ten grains every two hours, as well as applied it locally; but the effects of the local use were so prompt and decided, that he has now abandoned its internal administration altogether. In extensive trials of this remedy, both in hospital and private practice, he has never seen it fail when thoroughly applied before the deep planes of cellular tissue had been invaded by the disease. Under the latter circumstance, no positive curative results were of course to be expected from its mere external use. But before such parts had become affected, a solution of ten grains of this salt to the ounce of water, when thoroughly applied on lint all over the surface affected, and to a considerable distance

beyond it, and covered with oiled silk to prevent the evaporation of the solution, had not only produced a decided bleaching effect on the discoloured surface in every such instance, in the first twenty-four hours of its use, but had invariably destroyed all traces of the disease in forty-eight hours from its first application. The result was the same, whether the application was made in the traumatic or idiopathic form of the disease. He had thus cured twenty-seven cases, seven of which were of idiopathic erysipelas. Even in the cases where the deep planes of cellular tissue were involved, as well as the surface, the disease on the surface was always apparently affected by the application. It was most positively bleached in all instances, and in many was evidently destroyed, within the period above stated, even whilst that in the deeper parts proceeded on steadily to suppuration.—*Trans. Coll. of Phys. of Philadelphia.*

Surgeons in the Navy.—A report on this subject, read by Dr. Pinckney, a surgeon in the United States Navy, before the American Medical Association, which recently held its 18th Annual Session in Cincinnati, excited a great deal of interest and approbation. It was a most bitter but dignified protest against the discrimination made between officers of the line (military men purely) and the surgeons in the naval service in regard to title, pay and official and social privileges. He contended that while men of the medical profession were everywhere recognized as the equals of those in other professions, in the navy they were degraded below the military, inferior in age, experience and rank.

He said:

Our service is overgrown with usages which sprang up in the earlier and ruder ages of naval life, and still cling to it with a power and tenacity which almost defy modern enlightenment, progress, and even law. It is probable that the national authorities which organized the existing rank of medical officers intended to confer a more substantial fact than the usages of shipboard life have permitted. Among the usages of the service is that which limits an officer's rights and comforts to the apartments in which he messes, even though his rank actually entitles him to higher privileges and greater comforts than belong to those of an inferior rank who make up the majority of the inmates of that apartment. The steerage is the most humble of those apartments, and is the dwelling place of the very young, or those of no responsibility. The ward room gathers in it most of the commissioned and some warrant officers, and was originally occupied by none of higher rank than lieutenant. All its usages and government are still conformed to the scale of that grade.

Now, make a medical officer in name an admiral, and leave him to be ward room officer, and the title becomes ridiculous. It is sunk below the usages and restrictions originally designed for those of junior years and inferior rank.

There is only one mess which is superior to these restrictions, and that is the mess or messes of the commanding officers, and their associates, who may range in rank from a Lieutenant Commander to an Admiral. Sometimes there is one, sometimes two of those messes. This is very properly left to the will of the Commander-in-Chief, who may choose that he and his Captains may have one or separate establishments. The Assistant Surgeon enters the service with the rank of "Master." That this title may not be misunderstood, it may be necessary to explain that it is the lowest rank in the ward room. For the incumbent is in modern times generally a graduate of the Naval Academy, awaiting his promotion to Lieutenantcy. Like the "Master," the Assistant Surgeon at once becomes a member of the ward room mess, and unless the number of partitioned-off sleeping berths contained in the ward room are occupied by his seniors, he may have the good fortune to occupy one of those that are dimly lighted by an airport six inches in diameter. The space is so restricted, and the separation from the common apartments is so slight, that words in an ordinary voice in another, become common property. After further presenting the discriminations against Medical men in regard to shipboard accommodations, the Doctor said:

"The general law is that no officer shares in prize money unless his name be borne upon the books of the vessel making the capture; but the Admiral, or Commander-in-Chief, has a per centage of all prizes made. The fleet Surgeon, as a member of the Commander-in-Chief's staff, must be with him in the flag ship, and as a rule, at the post of greatest risk, responsibility and hazard; consequently, he is not likely to have his name borne upon the books of subordinate vessels making captures, and yet no share of prize money is allowed him."

This report suggests the following as the remedy for these evils:

1. After they have reached the rank of Commander, or are filling the position of Fleet Surgeon, let them be by right, as they often have been by courtesy, members of the cabin mess. If the mess of the Commander-in-Chief be too exalted a social position for the members of your profession who are filling the important position of Fleet Surgeon, then let them be members by right of the mess of the Commander of the ship and the Fleet Captain.

2. An equitable arrangement of prize money, most important in

principle, your Committee hope to see effected. It will, however, require future legislation.

In European countries, the Doctor said, more liberal regulations prevail in regard to naval surgeons than in Democratic America.

The late Admiral Foote, so justly distinguished for his large medical liberality, advocated the highest rank for naval medical officers. An Admiral among the most distinguished in the service, has authorized it to be officially said that he thought the Fleet Surgeon should, in our service, as in the French, be a member of the Commander-in-chief's staff and family. We regard it as opposed to the public interests of the service, which can never be sacrificed to gross indignity without detriment.

The Committee offered the following resolution:

Resolved, That a special committee of five be appointed by the President of the Association, to present this subject before the President of the United States and the Secretary of the Navy, and urge the adoption of the changes proposed.

The resolution was received with prolonged applause and adopted unanimously.—*Cin. Lancet and Observer.*

Respiratory Therapeutics.—At a recent meeting of the Imperial Academy of Medicine, M. Beclard read a report on the memoir on "Respiratory Therapeutics" submitted to that body by M. Sales-Girons. As our readers are aware, this physician claims for his mode of introducing pulverized fluids into the air-passages not only the power of acting locally upon the air-passages in pulmonary affections, but also as being a means of introducing medicinal substances into the economy of superior efficacy to the ordinary mode of gastric injection. M. Beclard at once admits that the physiological possibility of such introduction has been completely made out by M. Demarquay's and the author's observations. Indeed, the absorbent power of the pulmonary mucous membrane is remarkable for its rapidity. Twenty-five litres of water may be thrown into the bronchi of a horse in six hours, and become immediately absorbed, without occasioning any sensible inconvenience to the animal. In less than half a minute, all the mass of the blood passes, so to express it, globule by globule, through the substance of this tissue of such an admirable tenuity, so that the absorbable matter is brought into rapid contact with all the elements of the fluid. Of the superiority in rapidity of absorption of the pulmonary to the gastro-intestinal surface there can be then no doubt, and such absorption is compatible with the physiological action of respiration. At present the reporter regards the physiological aspect of the question as all that has been proved,

M. Sales-Girons' observations upon the applicability of medicinal agents and their dosage being at present too few, and standing in need of confirmation. M. Durand-Fardel, while admitting that pulverized fluids are of considerable utility in diseases of the throat and larynx, doubts whether they possess an equal efficacy in affections of the bronchi, while in the most of the maladies in which they are useful they do not possess any superiority over gaseous or vapourized inhalations. M. Guérin, commenting upon the discussion, observes that the fact should not be lost sight of that during the inhalation of pulverized fluids considerable oppression is sometimes felt—in fact, the air loaded with pulverized fluids, being possessed of less tension than the surrounding atmosphere, may induce an afflux of blood to the surface of the bronchi, giving rise to hæmoptysis or other accidents in the predisposed.—*Med. Times and Gaz.*

Prevention of Purulent Absorption by Ergotine.—It appears from the observations of M. Labat, a physician of Bordeaux, that the administration of ergotine after amputations is attended with the most beneficial results. The ergotine is given after the operation, and each day up to the day when the ligatures come away, the medium dose being from five to six grammes. M. Labat's memoir on the subject, which was presented to the Société de Chirurgie, records fourteen cases treated in this way.—*Ibid.*

Amblyopia produced by Tobacco-smoking.—M. Viardin has reported three cases of amblyopia caused by smoking. In the treatment of these cases the quantity of tobacco smoked was reduced under the direction of M. Viardin, and the sight was restored in the course of a few weeks.—*Ibid.*

Amaurosis from Embolism of Ophthalmic Artery.—The use of the opthalmoscope in the detection of embolism of the ophthalmic artery has been once more demonstrated—if indeed demonstration were required—by Signor Quaglino, of Pavia. The following is the case he records: A lady suddenly lost the sight of her right eye. Examination with the ophthalmoscope showed a slight linear opacity of the cortical periphery of the lens. The vitreous body was transparent. The region of the yellow spot was covered with a bluish gray substance of an almost elliptical form, with a reddish spot in the centre. The small arteries of the retina showed that their column of blood was less than usual, and after some days they appeared to be reduced to one-half their usual calibre. Eventually the arteries became completely obliterated, causing destruction of the papilla and the retina.—*Ibid.*

Telluric Theory of the Origin of Cholera.—Dr. Samuel Haughton remarks: "The magnetic storms and electric currents of the earth are now so well known, and their relation so clearly established, that no person of education, save, perhaps, an army surgeon in a blue book, at the present day ventures to hazard the statement that cholera or any other epidemic disease is favoured in its onward progress, much less that it is actually produced, by such telluric agencies as electricity or magnetism. The telluric theory has been, therefore, forced to reäppear in a new dress, and has been reproduced in the assertion that bad drainage, bad food, bad water, bad air, bad everything—including, I presume, the Evil One himself—may under favourable conditions, produce Asiatic cholera, on land or on shipboard."—*Med. Times and Gazette.*

Spontaneous Cerebral Softening.—This morbid condition has been very carefully studied by M. H. Soulier, who has recently published an essay on the subject. He considers that spontaneous ramollissement of the brain is not inflammatory, and advances the following reasons: 1. Because the coloration of the red ramollissement is simply the result of a vascular dilatation, or of an infiltration of the colouring matter of the blood. 2. The coloration of the yellow ramollissement is not the result of a purulent infiltration, but is the consequence of the mixture of fatty matters with the colouring matter of blood. 3. Because the structures taken for pus-cells are really fatty or nervous pigment elements. 4. Because the meningeal adhesions are not the consequence of an inflammatory exudation. 5. Because the animal heat is never raised above the normal temperature in persons attacked with ramollissement.—*Ib.*

Chorea Treated by Richardson's Apparatus.—An interesting case in which chorea was successfully treated by freezing the skin over the spinal cord has lately been recorded in the *Gazette Hebdomadaire,* and tends to some extent to support the ice theory of Dr. Chapman. A little girl, of about seven years old, was attacked with chorea, and presented herself to Dr. Lubelski, who, having tried in vain the usual tonic and antispasmodic remedies, determined to produce "anæsthesia of the spinal cord" by means of ether spray. The instrument used was the variety of Richardson's apparatus employed by dentists, and which has a double nozzel. It was applied to both sides of the spinal cord, and the ether spray was forced upon the surface for about three or four minutes, the operation being twice repeated. The result was that all the abnormal movements ceased, and the natural powers of motion were restored.—*Lancet.*

International Ophthalmological Congress.—This body will meet in Paris, instead of Vienna, this year, on the 11th of August, at the house of M. Sichel, 50 Chaussée St. Autin at 8 P. M. The secretaries of the Congress are M. Giranda Teulon and M. Wecker.

To Clean Steel Pens.—When the pen has been written with, and appears spoiled, place it over a light (a gas light for instance) for a short time, say a quarter of a minute, then dip it in water, and it will be fit for use. Also, any new pen which is too hard to write with, will become softer by being heated in the same way.

American Medical Association.—On the third day of the session of this body, the Committee on nomination of officers and place of meeting, submitted the following report:

Place of next meeting, New Orleans.

President, Samuel D. Gross, of Pennsylvania.

Vice Presidents, A. C. Post, of New York, John H. Atlee, of Pennsylvania, D. W. Yondell, of Kentucky, and H. R. Storer, of Massachusetts.

Permanent Secretary, Wm. B. Atkinson, of Pennsylvania.

Assistant Secretary, J. G. Richardson, of New Orleans.

Treasurer, Caspar Wistar, of Pennsylvania.

On motion of Dr. Davis, of Illinois, that portion of the report naming the place of meeting and officers resident there, was laid on the table. The rest of the report was then adopted.

Dr. Davis remarked that the crisis had arrived which he had long anticipated, when the matter of eating and drinking and entertaining the Association had come to involve such an expense, that no invitation had been extended in advance, by resident members of the profession, for the Association to meet in any City, and the committee had reported New Orleans, without an invitation from any one there. While there was no city in which he would like better to meet on personal accounts, and as a manifestation of reünion with the South, he felt that it would not be right to impose a meeting of the Association on that city. It was embarrassed in every relation of life, like all other places in that direction. It was impoverished; and though they would no doubt receive us with cordial and open hands, it would be wrong to tax them in that way. They could not vie with the liberality and extravagance of Cincinnati; or, if they did, it would be at a sacrifice we should not admit of. He would give them another year to recover, and an opportunity to invite us. He therefore offered the following:

Resolved, That the next annual meeting of the American Medical Association be held in the City of Washington, on the first Tues-

day in May, 1868, and every second year thereafter until otherwise ordered by the Association.

Resolved, That whenever the Association shall meet in the City of Washington, as directed in the above resolution, the Committee of Arrangements be strictly forbidden either to provide themselves, or accept provision by others, of any entertainment or excursion whatever.

Dr. Yandell, of Kentucky, said: "I have listened with pleasure, and derived some new light from the remarks of the gentleman from Chicago. I arise to explain the motives of the committee in naming New Orleans, and in doing which I think I shall violate no confidence. When the place of meeting was called for, Dr. Horatio Storer, of Massachuetts, proposed New Orleans. The motion was seconded by Dr. Alonzo Palmer, of Michigan. As one of the few representatives from the South, I chanced to be in the Committee, and was asked my opinion in reference to New Orleans. I confess to you, gentlemen, that I never listened to a proposition in all my life which excited such emotions in my breast, as this motion coming from Massachusetts, and seconded by Michigan, to take this great body of brethren across the crimson waste of war, and hold out the hand of fellowship to their brethren in the South [cheers.] I confess to you, that when Dr. Storer, of New England, and Dr. Palmer, of the mighty West, moved that we thus extend the hand of brotherhood to the medical profession of the South, I could not restrain my emotions from bringing tears of joy to my eyes.

The first question was whether it would be acceptable to New Orleans. I felt that I had some right to speak for the profession in New Orleans. My excellent father, and myself, had taught many of them as students in medicine. I had served with them, and was personally acquainted with most of those who had been in the Southern Army. I knew they felt as I feel, that when peace came in 1865, we had been united again; in fact, that we had never been divided; that, though politicians had separated us by geographical lines, still the great republic of letters was one; that

> "No pent up Utica contracts our powers,
> But the whole boundless continent is ours!"

In the great republic of science all geographical lines should be obliterated. We of the South, and you of the North, East and West, have a common heritage. The ashes of the illustrious Drake lie in your beautiful cemetery here. Have we of the South no claim to, nor interest in, his name and his fame? Have you of the North no interest in the long list of great and good men who

adorn the Profession in the South? No interest in those whose labors have added glory not only to medicine but to the nation?

Hence, I said I believed every man in the South, in that land of flowers, of the mocking bird, and of beautiful women, waited to have your hands extended to them to give you a welcome [cheers.] I said to the Committee that New Orleans was poor, that the whole South was poor, but that you would not be less welcome to set under our vines, and to take the fruit from our fig trees; that we could not give you such splendid entertainments as Cincinnati had done; but we could do what is better than eating, and better than drinking, we could give you the warm grasp of the hand that you would take with you in memory to your homes. In view of this the Committee honored itself and honored New Orleans, by selecting that place for its next meeting.

I see the objection of Dr. Davis; but if he proposes to do no eating and no drinking at the next meeting, New Orleans is a better place than Washington City. [Applause.] If you want to put the Medical Association on low diet, go down there. [Cheers.] But the very reason of all others which should take the Association south of Mason & Dixon's line—if such a line there be now—is that the Southern people are not able to come to you. They are not here to-day because they could not afford to come. But they would welcome you to their homes. If you do not go to New Orleans, then go to some place within their reach.

Dr. Grisword, of Ohio, moved to substitute Knoxville, Tenn., instead of Washington City.

Dr Sayre moved to substitute New Orleans, as in the original report. He thought that with Dr. Davis' resolution of restriction as to entertainments, there would be no objection to that place.

Dr. Cox, of Maryland, endorsed all that had been said by his friend from Kentucky; was proud that one man from the South had expressed himself as standing on the platform of the union of the Medical Profession. He never supposed there would be any difficulty in reüniting the Profession of Medicine after the war was over. As to the entertainments of the Association, he was in favor of them, and thought if Dr. Davis' measure was adopted the usefulness and attendance of the Association would be impaired. In England they did far more eating and drinking than was done here, and yet they accomplished a large amount of work.

Dr. Storer, of Boston, said the object of these meetings was to bring as many of the Profession together as possible, and it should meet in such places as would accomplish that object. We should not meet where we have not been invited by resident members.

That thing had been tried in Boston and came near failing. The probability was we would be well received; but we ought to wait for a proper invitation. The subject was finally disposed of by choosing Washington City as the next place of meeting.—*Cin. Lancet and Observer.*

Mr. Campbell DeMorgin has been adopting of late, at the Middle, sex Hospital, a novel plan of dealing with ligatures of ligated vessels. After ligating the vessels, instead of following the usual custom and leaving the ligatures hanging out of the wound, he, by means of a needle, passes them through the skin close to where they are tied. They remain quiet and come away without the slightest pain or trouble when their work is done. The wound consequently has nothing to irritate it, and heals primarily. The plan leaves the parts as quiet as if acupressure had been applied. —[*London Lancet.*

The Preservation of Sulphate of Iron.—(*London Lancet*, June 9, 1866.) Signor Pavisi recommends the following method of preserving sulphate of iron from oxidation. Mix four parts of pure crystallized sulphate of iron, and an equal quantity of finely powderded gum arabic, with distilled water, and evaporate the solution in a water bath, at a low heat, till it has a sufficient consistency to be poured out on plates of glass. When it has been poured out in this way and allowed to dry at a temperature of 30° Cent. in the dark, it may be cut up into lozenges, which can be kept for any length of time in a colored stoppered bottle. A further account of this method is published in the *Tijdschrift voo-Wettenschapplijke Pharm.*

Common Salt for Wounds.—A French writer speaks in terms of the highest commendation of chloride of sodium in the treatment of wounds and ulcers. The first effect on a fetid wound, he says, is to destroy the odour immediately. Another immediate phenomenon observed, is the pinkish hue which it gives the decomposed sanguineous blackish liquid which covers the wound. At the same time there is felt a sensation of cold and pricking which may even become slightly painful. The suppuration diminishes rapidly, and if the matter be sanious it becomes healthy in a few days. The wound granulates and cicatrizes rapidly, and in the change in it has a happy effect on the system, the appetite improving and the strength returning. Four hundred cases of wounds thus treated are reported. There was neither erysipelas, nor tetanus, nor hos-

pital gangrene in any one, though the hygienic condition of the hospital was bad. In only one case was there pyæmia. The solution first applied was in the proportion of ℥i to a pint of water.—After using this a few days, a concentrated solution was employed. In fistulous cases the solution was injected into the sinuses.—*Pacific Med. and Surg. Jour.*

THE RHYTHM OF FLAMES.—

> A light in sound, a sound-like power in light,
> Rhythm in all thought, and joyance everywhere.
> [COLERIDGE.

In days of old what a beautiful fable would have been added by the poets to the mythology of Paganism in describing the elder and more gentle of the offspring of Fire and Vapour, had they but dreamed of the strong attractive powers of music over flame. In our matter-of-fact days no rival to Orpheus and Eurydice will spring into being, and yet the myths would be so far kindred as proving—

> That things inanimate have moved,
> And, as with living souls, have been inform'd
> By numbers and persuasive sound.

In a recent lecture, delivered by Professor Tyndall at the Royal Institution, on "the rhythm of flames," or, as the more familiar title expresses it, on "sounding and sensible flames," a flame of marvellous sensibility was exhibited, some twenty inches long, which fell down to eight upon the slightest tap on an anvil, placed at a considerable distance, and which responded to every tinkle of a bunch of keys, or a few pence shaken together in the hands. The slightest vibration of sound affected the flame, which gave recognition sensibly when the lecturer walked across the floor, and was set in violent commotion by the creak of his boots, the rustle of a silk dress, or even the crumpling of a bit of paper. In that true London "Cave of Mystery," the laboratories beneath the lecture-room, this flame, said the Professor, "is called the 'Vowel Flame,' because the different vowel sounds affect it differently." Thus, to begin at the wrong end of the "gamut," at U, pronounced, *more Germanorum*, with open mouth from the throat, and not affectedly like *yew*, its gentle nature feels no response; so it passes it by as a vulgar sound, without recognition. At O the flame quivers, and if you give I the Continental sound of our *e*, it is strongly affected. A, as we pronounce it, is again a dead letter, but let it sound full, like *Ah!* and it oscillates violently and convulsively. Then in combined sounds it has its favourites.

At the words "boot," "bout," and "beat," uttered in succession it passes the first by without notice, at the second it gives a start, but at the third, as if conscious of the threatened indignity, it is fairly thrown into violent commotion. The Professor's heart is evidently bound up in his favourite. How would it respond to Longfellow's definition of love—should he utter it?—

> Love is the root of creation: God's essence. Worlds without number
> Lie on His bosom like children: He made them for his purpose only—
> Only to love and to be loved again. He breathed forth His Spirit
> Into the slumbering dust, and upright standing it laid its
> Hand on its heart, and felt it was warm with a flame out of Heaven.
> Quench, O Quench not this flame! It is the breath of your being!

For be it known the flame follows the recitation of verse as keenly as a critic, oscillating at intervals more or less violently, according as it picks out sounds to which it can respond. With true feminine instincts it is startled by the plashing of a drop of rain, and sibilation, or even the sound of a sibilant, in however distant part of the lecture room, throws it immediately into violent convulsions.

It is always difficult fairly to adjust to each pioneer in opening up new sources of scientific investigation his share of the merit and of the gratitude due to him. Trivial discoveries at first, often cast aside as soon as brought to light, and contradictions piled up upon no better foundation, are in general the germs of every branch of science; so the world, wisely perhaps, awards to the master-mind that unravels the tangled web and makes all clear, the full title of an original discoverer. The sounding of a hydrogen flame in a glass tube was first noticed by Dr. Higgins in 1777. Since then the subject has been investigated by Chladni, De la Rive, Faraday, Wheatstone, Kundt, and others. The action of sounds of a definite pitch on flames inclosed in tubes has been investigated by Count Schaffgotsch and Professor Tyndall. Indeed, under the latter, "The Philosophy of Flame" has for years been one of the leading subjects of investigation in the laboratories of the Royal Institution. The jumping of a fish-tail flame in response to musical sounds was accidentally discovered by Professor Lecomte at a musical party in America. In passing a candle with steadily burning flame rapidly through the air, an indented band of light is produced, and a slightly musical vibration indicates the rhythmic character of the motion. The solution of these problems, and of those which follow, is the subject of Professor Tyndall's lecture, and, as like another Columbus, he has broken the egg, by his aid we shall comprehend another of these ideas which cluster round that comprehensive phrase, "the conservation of force," as clearly as he has laid before us "heat as a mode of motion." But to proceed: a gas

flame having been introduced into a tube sufficiently long and wide, the current of air passing over the flame produces a vibration, which, by the aid of the tube's resonance, becomes a musical sound. Thus, from a tube three feet long the musical note will be rich; from one to six feet long it will be an octave lower; and in a tube fifteen feet long the deep bass vibrations have an intensity of such power that in the lecture-room, filled by an audience of some six hundred persons, pillars, floors, seats, gallery, and audience are all sensibly shaken. The note rises in pitch as the tube diminishes in length, and the intense heat of the sounding column produces a greater number of vibrations than any organ pipe of the same length. The flame in a tube $17\frac{7}{8}$ inches long vibrated 459 times in a second, and another in a tube $10\frac{3}{8}$ inches long 717 times in a second. These vibrations consist of a series of partial extinctions and revivals of the flame, forming, when viewed in Wheatstone's rotating mirror, a series of flame images of transcendent beauty.

Other equally interesting experiments served to illustrate the subject: one, which recalled the way in which the boys teach jackdaws and jays to speak, by splitting their tongues; and another, as more plainly showing the cause of the phenomenon, must, however, suffice. The bright flame of a fish-tail, which appeared perfectly insensible to all sound, musical or not, and to which Handel's Harmonious Blacksmith would apparently have hammered away to no purpose, was severed in two by a stream of air. This done, no sooner was a whistle sounded than the flame started; a knock on the table caused the separated flames to reünite and form for an instant a flame of the ordinary shape.

In the second experiment, a steady, clear flame, issuing from a circular orifice, four inches in height, was insensible to sound.—Raised to ten inches, it responded by a slight quiver to the whistle; at sixteen inches, the increased quivering showed the flame to be on the brink of roaring, and with a little increase of the pressure it roared, shortening itself at the same time to eight inches; reducing the pressure, the flame was again extended to sixteen inches. It did not roar, but was on the point of roaring, standing, as it were, on the brink of a precipice, and the whistle then forced it over, upon which it roared, simultaneously shortening itself, as it did before under the increase of pressure. "And herein," says Professor Tyndall, "is the true explanation of all the phenomena of of these 'sounding or sensitive flames,' that the sonorous pulses furnish the supplement of energy or force necessary to produce the the roar and shorten the flame."

The pitch of the note chosen to force this flame over the brink

of the precipice on which it rests must be equal to the occasion.—Four tuning-forks, vibrating respectively 256, 320, 384, and 512 times in a second, produced no effect on a certain flame. But besides these fundamental notes these forks will sound a series of notes of very high pitch, producing 1,600, 2,000, 2,400, and 3,200 vibrations per second; and to each of these the flame jumped in response, but most energetically in response to the highest note. *Hardwick's Science Gossip.*

Nitro-Muriatic Acid in the Treatment of Asthma—The following for its singularity, if for nothing else, ought, in my humble judgment, to be made public:

Miss R. M., æt. 30. Sent for me August 1st, 1866. Found her labouring under a severe asthmatic attack. She was very much emaciated. Some hectic fever, tongue coated lightly, pulse about 100 per minute, and weak, bowels costive. There were no appreciable signs of pulmonary tuberculosis. Complains of a constant aching in right hypochondrium. Has shooting pains through the chest. Has had phthisis all her life. Has been treated by numerous Physicians of the regular Profession, also of the quack fraternity. Tried patent humbugs, but nothing gave more than temporary relief. She was gradually, but surely declining, her general health being poor. The paroxysms were becoming more severe and often, recurring now every night. Her friends had despaired of her ever being cured.

Treatment. Ordered tincture cinchon. comp., f. ℥ss, every six hours. Nitro-muriatic acid, gtt., vj, every eight hours, in half tumblerful of sweetened water. Also drop ten drops in gill of water, and soak a cloth in it, and apply over the liver, and wear flannel. *She has never had another paroxysm of asthma since!* Under the treatment she rapidly recovered. Is now quite fleshy. Says she enjoys better health than she ever has in her life. She rides all over the country the coldest of weather, and has had two violent colds since, but without the least sign of a return of her old tormenter. She occasionally takes the acid yet, as she thinks it the greatest medicine in the world. She attributes her cure to it, as she had been using the tincture of bark before. I gave the acid for the purpose of relieving the liver, and for its tonic properties, and its curing the asthma was a complete surprise to me. So I claim no credit for it, but am determined to give it a trial in my next case, and would like to hear what the Profession think of it.—B. F. R.—*Med. and Surg. Reporter.*

Treatment of Acute Orchitis by the Alternate Application of Heat and Cold.—In private practice there is, in the treatment of gonorrhœa, no complication so much dreaded by the surgeon as that of swelled testicle; especially since the occurrence of the disorder of the testicle is too frequently attributed to some fault of management. The severity of the pain and the "sympathetic" disturbance of the general system have doubtless originated the very active plans of treatment often pursued in such cases.—Whether surgical pathologists are strictly correct in teaching that the inflammatory action is limited to the epididymis, or not, it can scarcely be denied that the "sympathetic' phenomena have frequently relation to the nerve-supply of the body of the testis itself, or are such as would result from violent impressions on the body of the testis. The pain of ordinary swelled testicle is very variable. In some cases the distress is great from a terrible weight in the loins; in other cases the pain is chiefly referred to the crural branch of the genito-crural nerve; but in all cases swelling is the remarkable symptom. The swelling greatly depends on effusion into the tunica vaginalis, though of course the highly vascular and abundant connective tissue of the epididymis and the equally vascular structures of the scrotum have also an important share in the general enlargement. Mr. Nunn employs the alternate influence of hot and cold water in overcoming the inflammatory engorgement, having recourse to compression by strapping only in the late stage of the affection, when tenderness has in a great measure subsided.

Case 1. (No. 80 in Register.)—J. H———, aged twenty-six, was admitted on the 30th of May last, under the care of Mr. Nunn. He had swelled testes one week: gonorrhœa three weeks No sickness nor pain in the loins. Ordered to have a hot bath with cold douche over the testicle daily; half drachm doses of tincture of sesquichloride of iron three times a day.

In two days the symptoms were greatly relieved. His stay in the hospital was twenty-one days, owing to the continuance of the urethral discharge. The testicle was strapped on the 6th of June.

Case 2. (No. 153 in Register.)—W. P———, aged twenty-three, was admitted on the 27th of June last, with acute orchitis and gonorrhœa. He was ordered a hot bath with cold douche daily, and a compound copaiba draught.

On the 4th of July he was discharged cured. The date of attack was June 21. Stay in hospital seven days.

Case 3. (No. 236 in Register.)—J. H——— ; age not recorded. Admitted July 26. Four leeches and a purgative were ordered by

the house-surgeon. On the 28th a hot bath with cold douche was ordered twice a day by Mr. Nunn.

The patient was discharged cured on the 2d of August. His stay in the hospital was six days. The testicle was strapped before he was discharged.

The beneficial influence of alternate application of heat and cold probably depends on the removal of the condition of *stasis* by the alternate dilation and contraction of the vessels in or near the inflamed parts. The crowded and adherent blood-corpuscles are again passed into circulation, and nutritional are substituted for inflammatory processes.

The method of applying heat and cold to the testes is as follows: The patient is placed in a hot bath; after six or ten minutes a current of cold water is directed on to the testicle by means of an india-rubber tube for a minute or two. The parts are again heated, and the application of the cold water is repeated in a similar manner three or four times. An almost immediate sense of relief is the usual result.—*London Lancet.*

Relaxed and Elongated Uvula.—A correspondent calls attention to the local application, twice a day, of a strong solution of sesqui chloride of iron as most beneficial in these cases. It may be applied by means of an atomizer.—*Exchange.*

Local Anæsthesia.—"In a recent number of the *Gazette Hebdomadaire*, of Paris, is a curious statement bearing on this subject. Two French surgeons, taking the hint from the common practice of placing cotton wet with narcotic linaments in the external ear as a a remedy for toothache, determined to try the effects of local anæsthesia in that region as a means of preventing pains in the extraction of teeth. They directed the ether spray upon the track of the trifacial nerve in thirty-two operations of that kind; in twenty-four of them the extraction was painless, in five it was painful, and in three the result was doubtful. Among the successful cases were five superior molars, and one superior canine, which had been broken off previously. Among the failures were three superior molars and one inferior canine. It appeared necessary to continue the projection of the ether three minutes. A shorter time than this was apt to lead to failure. In one case the tonsil was removed after the application of the ether to the auditory meatus. The patient was a young man, highly intelligent, who did not feel a a particle of pain. The reader perceives that the time required to produce anæsthesia by external application is much greater than by direct action; but, to offset this, we have the greater inconve-

nience of the application within the mouth, and the risk of unpleasant consequences from inhaling and swallowing the ether. There is no doubt that Rhigolene would act more promptly. The subject should claim the earnest attention of dental surgeons. It is time chloroform was entirely discarded in operations on the teeth."—*Pacific Med. and Surg. Jour.*

On Exercise in Hysteria.—By Mr. F. R. Skey, F. R. S., Consulting Surgeon to St. Bartholomew's Hospital. On this subject, Mr. Skey remarks: "Such exercise should be active—neither strolling nor sauntering out of doors, 'to take the air,' as ladies term it, nor gardening, nor lounging about—but adopting a good brisk walk, at a pace of at least three miles an hour, *ever stopping short of fatigue.* People will often tell you they 'take plenty of exercise about the house, and they are on their legs during many hours of the day.' This is fatigue without exercise. What we want for health is exercise without fatigue, for fatigue is exhaustion, and it is to be obtained only on the terms which I have mentioned. I do believe there are many maladies, or at least many forms of indisposition, which, with a strong will, may be walked away, provided the exercise be taken systematically, and rendered a prominent feature in the daily treatment. The distance walked should be increased daily, and a claim made on increasing exertion. I doubt, whether horse exercise, however agreeable, or however stimulating both to mind and body, is equal in sanitary value to exercise on foot.—*Ranking's Abstract.*

A Diagnostic and Prognostic in Typhoid Fever.—During the prevalence of an epidemic of typhoid fever in 1850, the attention of my present associate, Dr. E. H. Watts, was directed to a peculiar discoloration in the fauces, generally ovoid in form, varying in size from three-eighths to half an inch in length, and in breadth from one-fourth to three-eighths of an inch, and usually located just to the right and left of the uvula.

It was usually observed from the fourth to the eighth day of the attack, making its appearance earlier if the attack was ushered in with severity; the shade of discoloration ranging from a little deeper pink than the adjoining mucous membrane to a deep purplish black.

Its presence was proof of the nature of the disease. With a deeper shade of colour, as observed from day to day, the disease was known to be progressing unfavourably; the gradual lightening up of tint indicated restoration to health; fading away entirely

during convalescence, and becoming a very deep purple in all the cases that terminated unfavourably.

The attention of the late Dr. Le Roy H. Anderson was called to it by Dr. W., and several post-mortem examinations were made by them. In every case examined in which this peculiar discoloration was observed in the fauces, ulceration of the glands of Peyer was always found.

The attention of the profession was called to it at that time by Dr. Anderson, through one of the journals. Seventeen years more of observation has led Dr. W. to lay great stress on its value in the diagnosis and prognosis of typhoid fever.

My own attention was first called to it about twelve months since. In that case there was but one spot, occupying the anterior face of the uvula, at one stage of the disease occupying nearly the whole of it.

I have thus endeavoured to give a brief and concise sketch of this strange monitor, and would request those whose facilities for investigation afford a wider field than a country practice, to put it to the test of practical observation and post-mortem examination. If its value be verified, the Profession should have the benefit of its aid in their therapeutics. If it be found wanting in reliabilty, some of those who lean on it quite heavily now wish to be apprised of their error.—E. H. S.—*Med. and Surg. Reporter.*

Diet for the Infant.—The best of all diets for an infant who cannot have the breast, is one part of cream, two or three parts of water, according to the density of the cream, and enough sugar to make the mixture very sweet. The chemists who have analysed the milk produced by various animals, tell us that the fluid produced by the woman and the ass contain the smallest amount of curd, and that both are very saccharine; and experience tells us that the mixture recommended above, forms the nearest approach to the maternal fluid.—*London Medical Mirror.*

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

A meeting of the Board of Visitors of the Medical College of Virginia will be held at the College, in Richmond, on Wednesday, July 3, at 5 o'clock, P. M., to fill the vacancy in the Chair of Anatomy, caused by the resignation of Professor Logan, who has been elected to the Chair of Surgery in the New Orleans School of Medicine.

At the same meeting the Faculty will recommend to the Board the establishment of a new Professorship, of General Pathology and Pathological Anatomy.

Candidates will forward their applications to the President of the Board of Visitors, and to the care of Dr. L. S. Joynes, Dean, Richmond, Va.

The friends of this College, while regretting the loss of Dr. Logan, as one entirely capable of filling his past and prospective positions, must, with pleasure, congratulate those having the administrative charge of this Institution, in recommending the addition of a Professorship, equal in importance to that of any in the corps of medical teachers.

The New Orleans School of Medicine is decidedly complimentary to the Medical College of Virginia, in taking two of the Professors of the last School, during the two past years.

The Medical College of Virginia displays commendable energy in this new movement, and there can be no doubt but that it will meet with a proportionate reward.

The sixtieth Annual Circular of the University of Maryland has been received. The last class numbered 188 students, with 75 graduates.

This Institution has recently created a new Chair, on "Diseases of Women and Children," this special Chair being peculiar to very few Colleges in America. Dr. W. T. Howard, formerly of North Carolina, and recently of Baltimore, Md., has been elected to fill this position. Dr. Howard is well and most favourably known to the public, and both the members of the Faculty of the University of Maryland, and himself, are to be congratulated on this recent election. This School is adopting all of the recent improvements in deducting and illustrative instruction, thereby increasing its efficiency and promoting its usefulness.

Pompeii.—One of the latest discoveries reported from the excavations, is that of a bronze vase hermetically sealed, and containing a considerable quantity of water, which was pronounced clear, fresh, and remarkably soft, after its repose of 1800 years.

Fish from Artesian Wells.—Sir Charles Lyell, in a new edition of his "Principles of Geology," notices the discovery of fish in some of the Artesian Wells sunk in the desert of Sahara.—They were brought from a depth of 175 feet, and were not blind like those of Adelsburg, but had perfect eyes.

It is stated that a Journal is projected, to be entitled the *Journal of Cutaneous Medicine*, and which is to be edited by Mr. Erasmus Wilson, and Dr. Tilbury Fox.

Four Children at a Birth.—Dr. C. J. Faust, of Graham's Turn-Out, S. C., in a letter to Dr. G. S. Bedford, of New York, reports a case of quadruple birth. The children were males, and averaged about five pounds each in weight. One of the children was born at 11, A. M., Feb. 26th, and the other three between the hours of 6 and 8, A. M., the following day. There was but one placenta, which was square, with a cord attached to each corner.—The children all lived, and were nursed by their mother.

Dr. Bedford publishes Dr. Faust's letter in the N. Y. *Medical Record*, accompanied with some valuable statistics on plural births.

Virginia Opium.—The specimen of Virginia opium exhibited to the American Pharmaceutical Association contained 4 per cent. of morphia and 3.5 per cent. (approximately) of narcotina. It becomes a matter of interesting inquiry to ascertain how far the results, in the production of this opium, would be modified by a particular mode of culture, and the character of soil and season, as it is altogether probable that its morphia-yielding quality is in a great measure dependent upon a combination of these circumstances. —*Proc. Amer. Phar. Assoc.*

Expulsion of Mr. J. Baker Brown from the Obstetrical Society.—The name of Mr. J. Baker Brown, of clitoridectomy notoriety, was stricken from the list of Fellows of the Obstetrical Society of London, at a meeting of the Society on the 3d of April. —*Med. News and Library.*

New Medical Baronet.—Mr. William Lawrence, the eminent surgeon, has had the honour of a Baronetcy conferred upon him.

M. Pasteur states that it is an error to suppose that a temperature of 167 deg. Fahr. is sufficient to destroy organic germs; 130 deg. to 238 deg. is the temperature required.

Cholera in Paris.—It is stated (*Lancet*, May 4, 1867,) that cholera has again made its appearance in Paris. Seven or eight cases were admitted in the course of the previous week into a Maison de Santé in the northern district of the city, and one death took place.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

The recent and harmonious action of the representatives of a large number of American Medical Colleges justifies the direction of special attention to the resolutions adopted.

This Convention, as is well known, met in Cincinnati, on the 3d of May, for the important purpose of improving the standard of medical education in this country; also, to so entirely remodel the organization of Medical Colleges as to remove the many and just objections which all candid Physicians have been long prepared, without reservation, to admit.

It is believed that the Medical Colleges of America will, cheerfully and promptly, adopt the radical and admirable changes recommended. Indeed, these changes are so excellently conceived and so clearly presented, that either a defence or laboured recommendation of them is entirely unnecessary. Until objections are however urged, after a general and careful analysis of the subject, nothing further at the present time will be said in this connection. The resolutions are therefore presented without further comment:

Resolved, That a copy of the Resolutions adopted by this Convention, certified to by its Officers, be transmitted to the American Medical Association, at its next Session.

In obedience, therefore, to this action, we, the President and Secretary of said Convention, beg leave herewith to transmit the following:

Resolved, 1st. That every Student applying for matriculation in a Medical College, shall be required to show, either by satisfactory certificate, or by a direct examination by a Committee of the Faculty, that he possesses a thorough knowledge of the common English branches of Education, including the first series of Mathematics, elements of Natural Sciences, and a sufficient knowledge of Latin and Greek to understand the technical terms of the Profession; and that the certificate presented on the result of the examinations thus required, be regularly filed as a part of the records of each Medical College.

2nd. That every Medical Student be required to study four full years, including three regular annual courses of Medical College instruction, before being admitted to an examination for the degree of Doctor of Medicine.

3rd. That the minimum duration of a regular annual lecture term, or course of Medical College instruction, shall be six calendar months.

4th. That every Medical College shall embrace in its curriculum the following branches, to be taught by not less than nine Professors, namely: Descriptive Anatomy, including Dissections; Inorganic Chemistry, Materia Medica, Organic Chemistry and Toxicology; General Pathology, Therapeutics, Pathological Anatomy and Public Hygiene; Surgical Anatomy and Operations of Surgery; Medical Jurisprudence and Medical Ethics; Practice of Medicine, Practice of Surgery, Obstetrics, and Diseases of Women and Children; Clinical Medicine and Clinical Surgery. And that these several branches shall be divided into three groups or series, corresponding with the three courses of Medical College instruction required.

The first, or Freshman Series, shall embrace Descriptive Anatomy and Practical Dissections; Physiology and Histology; Inorganic Chemistr y, Materia Medica and Therapeutics. To these the attention of the student shall be mainly restricted during his first course of Medical College Instruction, and in these he shall submit to a thorough examination, by the proper members of the Faculty, at its close, and receive a certificate indicating the degree of his progress.

The second, or Junior Series, shall embrace Organic Chemistry and Toxicology; General Pathology, Morbid Anatomy and Public Hygiene; Surgical Anatomy and Operations of Surgery; Medical Jurisprudence and Medical Ethics. To these the attention of the medical student shall be directed during his second course of Medical College instruction, and in them he shall be examined at the close of his second course, in the same manner as after the first.

The third, or Senior Series, shall embrace Practical Medicine; Practical Surgery, Obstetrics, and Diseases peculiar to women and children, with Clinical Medicine and Clinical Surgery in Hospital. These shall occupy the attention of the student during his third course of College instruction, and at its close he shall be eligible to a general examination for the Degree of Doctor of Medicine.

The instruction in the three series is to be given simultaneously, and to continue throughout the whole of each annual College term; each student attending the lectures on such branches as belong to his period of progress in study, in the same manner as the Sophomore, Junior and Senior Classes, each pursue their respective studies simultaneously throughout the Collegiate Year, in all our Literary Colleges.

5th. That every Medical College should immediately adopt some effectual method of ascertaining the actual attendance of Students, upon its lectures and other exercises, and at the close of each session, of the attendance of the student a certificate, specifying the time and the courses of instruction actually attended, should be given, and such certificate only should be received by other Colleges as evidence of such attendance.

6th. That a committee of Five be appointed by the President, whose duty it shall be to present the several propositions adopted by the Convention, to the Trustees and Faculties of all the Medical Colleges in this country and solicit their definite action thereon, with a view to the early and simultaneous practical adoption of the same throughout the whole country. And that the same Committee be authorized to call another Convention whenever deemed advisable.

These resolutions were unanimously adopted by the American Medical Association.

NOTICES.

☞ The International Medical Congress at Paris.—The International Medical Congress will be opened at Paris on the 16th of August next. The Central Committee earnestly desire an active participation in the Congress on the part of Medical Societies from all parts of the world, by sending delegates to represent them.

By the third article of the Statutes, foreign delegates are admitted without any pecuniary consideration.

The undersigned having been appointed a Corresponding Delegate by the Central Committee at Paris, would urge upon Medical Societies the propriety of appointing delegates to the Congress as speedily as practicable, and reporting them to him, that he may forward them as early as possible to the Central Committee.

S. W. Butler, M. D.,
Philadelphia, Pa.,
Corresponding Delegate.

☞ Short Articles.—It is requested, that articles contributed for this Work, should be brief and practical. With few exceptions, long communications are distasteful to readers and are generally neglected; it is difficult to make room for them. Papers of merit are retained for many months, when, if the valuable truths contained were briefly presented, they would be promptly published. It is the desire of the Editors of this Journal to increase, relatively, the Eclectic Department, and, to effect this, original papers of limited extent are preferable.

☞ Where manuscript is sent to the Editors of this Journal, all writers are respectfully requested to state whether remuneration is desired.

There is such a difference in the intention of those writing for this Work, that it is necessary to make this request.

☞ The Editors of this Journal wish it understood that they do not desire the subscription of any one who is unwilling to observe honourably and in good faith, the "terms" to which he subscribes. If any one is unable to pay five dollars within the period specified, or is unwilling to pay subsequently the additional amount necessary for his accommodation, it is requested that he will abstain from subscribing.

☞ Drs. J. D. Jackson and S. P. Breckinridge, of Danville, Ky., are making strenuous and laudable efforts to revive the "old fogie" so-called, but yet most valuable aid to a thorough medical training of the Students—viz. the office instruction. We heartily commend their enterprise, not only on their own meritorious account, but also in the behalf of an old system, than which there never has been yet anything better devised.

We have received from the Editor of the Medical and Surgical Reporter, Philadelphia, a copy of the Physician's Pocket Record and Companion. It is the best seen, and a great convenience.

☞ Dr. M. GONZALES ECHEVERRIA, on Lake Mahopac, N. Y,, has opened an Institution for the treatment of Paralytic and other nervous affections. Correspondents will address him at 49 East 21st street, New York City. He is in all respects worthy of confidence.

SEVENTY-FIVE CENTS will be given for every copy of this Journal for October, 1866.

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The terms of this Journal have been changed; see notice on the cover.

BOOKS AND JOURNALS RECEIVED.

Fractures of the Lower Extremity—Treated by the use of the Suspensory Apparatus. By N. R. Smith, M. D., Professor of Surgery in the University of Maryland. Kelly & Piet. Baltimore. 1867. From the Publishers.

The following Exchanges are regularly received: The Atlanta Medical and Surgical Journal; Boston Medical and Surgical Journal; Braithwaite's Retrospect; Buffalo Medical and Surgical Journal; Chicago Medical Journal; Chicago Medical Examiner; Cincinnati Lancet and Observer; Druggist's Circular and Chemical Gazette; Galveston Medical Journal; Journal of Applied Chemistry; London Lancet—Original and Reprint; New York Medical Record; The Practitioner; Richmond Eclectic; New Orleans Medical Journal; New York Medical Journal; Pacific Medical and Surgical Journal; St. Louis Medical and Surgical Journal; Savannah Journal of Medicine and Surgery; Southern Journal of the Medical Sciences; Southern Medical and Surgical Journal; The American Journal of Pharmacy; The American Journal of the Medical Sciences; Dental Cosmos; The Detroit Review; Philadelphia Reporter; The St. Louis Medical Reporter; Le Mouvement Medicale, Paris; Journal de Medecine Mentale, Paris; Medical Press and Circular, Dublin; Revue de Therapeutique Medico Chirurgicale, Paris; Revue Medicale, Paris; Cincinnati Journal of Medicine; Canada Medical Journal; Journal of Materia Medica; The Ophthalmic Review, London; Dublin Quarterly Journal of Medical Science; Medical Mirror, London; Debow's Review; Littell's Living Age; The Farmer; London Punch, The American Naturalist.

MATRIMONIAL.

Married, on the 30th ultimo, at "Indian Mounds," the residence of the bride, Jackson county, Florida, by the Rev. Dr. Starr, of the Episcopal Church, Dr. W. T. Howard, of the University of Maryland, Baltimore, and Miss Annie Waddell.

MORTUARY.

Henry Bascon Maupin, M. D., of Barboursville, Cabell Court House, West Virginia.

Dr. Maupin was accidentally killed by being caught between the wharf-boat and the steamer St. James, at the town of Guyandotte, about one o'clock, February 4, 1867.

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